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CORRELATES OF TEAM PERFORMANCE IN THE SPORT OF CURLING

by

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ABSTRACT

Performance records of men's competitive curling teams were examined to identify characteristics of the skips which were related to the degree of success or failure attained. Sixty-four top competitive teams in Alberta were sampled as a means of obtaining a relatively homogeneous study group with respect to ability and experience.

Data were collected through the use of a self-report questionnaire in three main areas of concern. First, the skip's leadership style (task versus relationship oriented) was measured using Fiedler's least and most preferred teammate bi-polar adjective rating scales. Second, skips rated the degree to which they saw their teammates as getting along together in four situational contexts - while winning on and off the ice and while losing on and off the ice. Third, the degree to which there were conflicting demands for the skips was assessed regarding work, marriage (family), and other extraneous factors. Skips rated the degree to which any of these potentially conflicting areas affected their on-ice performance negatively.

The results showed that neither of the two measures of leadership style correlated significantly with team performance in major or minor competitions. Task-motivated skips were neither more nor less successful than relationship-motivated skips. It was suggested that there is a need to conduct observational studies of actual leadership behavior exhibited by skips during competition as a means of identifying effective leadership styles.

With regard to group cohesion as assessed by the skips, it was found that skips' ratings of cohesion in reference to losing and

winning contexts on and off the ice varied substantially. Cohesion seemed to be dynamic and situationally dependent. Team performance and group cohesion were found to be highly related when skips' ratings of cohesion on the ice while winning were considered. The teams rated as getting along the best were those that were also having greater success.

When the skips' ratings of conflicting life demands were examined no relationship between a skip's employer support and team performance was found nor was there any relationship between the ease or difficulty a skip experienced in being absent from work to curl and team performance. It was suggested that although these factors were not correlated with team performance, they may determine in part who is able to be a competitive curler in the first place. Statistically significant correlations were found between team performance and the skip's wife support rating and the ease or difficulty associated with being away from home to compete. The greater the support a skip tended to see himself as receiving from his wife in regards to curling the better his team performance record. The skips who found it easier to be away from home to compete were also those having better performance records. However, the cause-effect nature of these correlations cannot be assessed in the present study. The degree of conflict a skip saw between his curling and non-work, non-marital considerations did not correlate with team performance.

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CHAPTER ONE

INTRODUCTION TO THE STUDY

The present study examines factors influencing success and failure of teams in the sport of curling. Although a large number of Canadians participate in the amateur sport of curling, little research has been conducted with regard to the sociological or psychological aspects of achievement in this sport (McNeil, 1974; Pezer, 1977). Consequently, little is known about what determines success in the sport. Nevertheless, hundreds of Canadians devote themselves so seriously to the sport that their involvement may be said to constitute a "career" in itself.

Curling in Canada has undergone some major transformations in organization during the last decade. Numerous competitive events are now scheduled from October of one year to April of the next. On a much smaller scale, these events literally comprise a tour similar to that of professional golf in the United States. Competitions are growing in terms of prize money and costs paid by competitors. Private sponsors regularly contribute substantial sums of money to prize pools. With this growth of organization and interest in sponsorship in curling there has been a continual emergence of greater numbers of competitive teams who are challenging one another for the prestige, status, and public recognition associated with winning major competitions.

Although competitive curling is becoming increasingly organized and more lucrative for participants, the approach to the sport taken by many top amateur teams has not changed substantially over the last two or three decades. Perhaps the lag is partly due to the continued modelling today of the highly successful teams of the early sixties. Teams do not have coaches, organized team or individual practices, physical conditioning programs or clearly designed strategies for playing the sport. Typically, there is no systematic study of teammates' strengths and weaknesses, nor is there any systematic scouting of opposing teams. Teams do not engage in formally arranged team building activities. And when it comes to a consideration of how different players are recruited by teams making personnel changes, one is confronted with a highly disorganized, informal system.

There is presently an absence of scientific knowledge about what is necessary for the achievement of success in curling. Participants in the sport might realize several benefits from research which examines sociological and psychological factors associated with team performance. There is a need to obtain descriptive information from competitive curlers with respect to their approach to the sport and their beliefs about what it takes to be successful. Such information might provide insights into understanding athletic performance from a social science perspective. Research dealing with such issues may provide a basis from which more thoughtful and disciplined approaches to this sport may be developed. As empirical research contributes to the development of a body of knowledge

regarding athletic performance and achievement, an understanding of techniques and approaches that facilitate performance in competition will be developed.

The present study is exploratory in nature and seeks to provide a description of competitive curlers and an identification of factors associated with success. Three areas of concern will be examined in relation to the performance records of competitive curling teams in Alberta. The focus will be on the skip of each team involved. First, the leadership effectiveness of the skip will be examined. Second, the skip's perception of his team's social cohesiveness will be examined in relation to the team's performance record. Third, the degree of conflict a skip is experiencing between curling demands and other life demands will be examined in relation to the team's performance record.

CHAPTER TWO

STATEMENT OF THE PROBLEM

A. Leadership

1. The Nature Of A Curling Team As A Small Group

A competitive curling team is a small task group comprised of four individuals who share common goals and act interdependently in striving for achievement. Each team member plays a different position determined by the order in which he throws two of the team's eight shots played in each end of a game. The positions are named lead, second, third (vice-skip), and skip.

After throwing his team's first two shots of each end, the lead takes on the role of sweeper for the remaining six shots. The second acts as a sweeper on lead rocks, throws his team's second pair of rocks each end and joins the lead as a sweeper on third and skip rocks. The lead and second form the "front end" of the team. Each plays an important, but slightly different, developmental shotmaking role as the end progresses; however, much of the front end's contribution comes from sweeping third and skip rocks.[1] The third pairs up with the second in sweeping lead rocks and pairs up with the lead in sweeping second rocks. The third, unlike the front end, frequently interacts with the skip. Generally, before throwing his shots the third remains at the same end of the ice as the skip. He discusses the parameters of the shot to be played . After reaching some agreement with the skip, he goes down to the other end of the ice where the front end is briefed and the shot is delivered. Between his

shots the third normally returns to the end where the skip is in order to discuss the outcome and the parameters of his second shot in the end.

It is important to emphasize that there is considerable contact between the lead and second. There is minimal contact between the lead and third and between the second and third since little time for discussion is available. More importantly, the lead and second are essentially removed spatially from the skip. Very little interaction takes place on the ice between the skip and the front end in normal circumstances. Interestingly, it is the third who bridges this verbal communication gap between the front end and skip. Thus the third has an important communication dimension as a part of his role. He is the one player who has regular contact with each team member.

Another feature of the third's position is that he also interacts closely with the skip when it is the skip's turn to throw. The third holds the broom as a target for the skip to shoot at and more importantly takes considerable responsibility for calling the sweeping on skip rocks.

The skip is charged with several different and very important responsibilities. The most obvious crucial demand placed upon the skip is the task of throwing his team's last two shots on every end. Most of the time, the skip's shots have a major impact on who scores points in a particular end and who eventually wins the game. Unique stresses are associated with this position for that reason. The team wins or loses directly as a result of the skip's performance.

Every other team member has someone else who throws after him who can make up for previous misses. Not so with the skip. To a degree, the skip's shots are more diverse, more difficult, and necessitate more accuracy and more finesse than other shots played at other positions. In addition, there is something about the "last" shot that makes it different from the first seven shots played in an end. And in particular, the "last" or eightieth shot in a ten end game (if required) differs considerably from the first seventy-nine shots. However, many of the best skips will not admit this and say they do not really think much of this difference and try to approach the "last" shot in the same way as any other shot.

Another dimension to the position of skip concerns leadership. Fiedler (1967, p.8) defines "the leader as the individual in the group given the task of directing and co-ordinating task-relevant group activities or who, in the absence of a designated leader, carries the primary responsibility for performing these functions in the group." In the sport of curling, the skip has the primary responsibility for many tasks aside from being the last shooter on the team:

(a) The skip is the strategist. In calling the shots and directing the play he attempts to set up offensive and defensive positions depending upon such factors as ice conditions, the score, the end in play, etc. The skip assesses and responds to numerous situational factors that must be considered before each shot is thrown.

(b) The skip reads the ice to determine how much leeway must

be allowed for in the curl of a rock as it travels the length of a sheet of curling ice. Every sheet of ice is different and every sheet of ice changes during the course of a game. How much a rock curls depends upon the weight, the amount of turn (spin) on the rock when delivered, the ice conditions, etc. The skip must estimate how much a rock will curl and place the broom accordingly as a target for his teammate to throw at. Reading the ice charges the skip with the responsibility of being extremely attentive. High concentration is needed on every shot played. In addition, a skip must have a good memory so as to be able to recall what the ice was doing in a particular spot earlier in the game.

(c) The skip calls the line on all shots thrown by the lead, second, and third. If a rock is curling too much, a call for sweeping is made to try and hold the rock straight. If a rock is not curling enough, a call must be made so the sweepers give the rock a chance to bend more in the direction desired. Calling the line involves not only responding to what one observes but also the anticipation of any abrupt or gradual changes. Calls for sweeping must be made before it is too late to keep the rock straight.

(d) The skip is usually expected by his teammates to consult with them when it is felt necessary. Although the amount of consultation between teammates about strategy and parameters of shots to be executed may be substantial, the skip generally has the "final" say in decision-making.

Some skips absolutely demand this control while other skips are given this kind of control by their teams.

(e) The skip is the team's media representative. The team is usually entered in competition under the skip's surname. Most press coverage refers to the team by referring to the skip. It is the skip who must field questions from the press. Although this matter is rather unimportant in small competitions this additional demand on the skip becomes very crucial when the team is receiving a lot of attention during major championships.

2. Leadership Effectiveness And Team Performance

Fiedler (1967) suggests that group performance is partly a function of its leader's effectiveness. This is thought to be especially true for a task group whose members are interdependently seeking a common goal. In classifying groups with regard to the member interaction characterizing the goal seeking, Fiedler differentiates among interacting, coacting, and counteracting groups. The distinction lies in the degree of co-ordination between team members in performing the primary task of the group. An interacting group is one where work by members on the task requires a high degree of co-ordination and goal achievement is a function of the extent to which members work effectively in this interdependent context.

A coacting group is one in which each of the group members does his job relatively independently of other team members. A lawn bowling team represents a good illustration of a coacting group. Although categorized by Donnelly (1978) as a coacting group, it would

seem that a competitive curling team is actually an interacting group. The classification of a curling team as a coacting group reflects a lack of recognition of the sport as involving more than simply four individuals who each throw two shots per end on a fixed rotational basis. More is involved in the making of a curling shot than simply the execution by a thrower because sweeping plays such an important role. All team members are highly involved in determining the outcome of every shot played during a curling game. When a curler releases a rock in his delivery, complex interactions and judgements take place over the period of time while the rock is in motion. Depending upon the ice conditions and the type of shot played, this time period would vary between seven and twenty-seven seconds. Upon releasing the rock, the thrower usually gives information and possibly instructions to the sweepers. The sweepers assume responsibility for judging the weight (speed) of the rock and respond to either the thrower's sweeping calls or the skip's calls for sweeping in reference to line. Sweepers who continuously process information and instructions decide to sweep or not. Sometimes a sweeping call may be changed as many as five or six times as a rock travels down the sheet of ice. The outcome of each shot depends vitally upon the successful integration of all four teammates' performances. A sweeping error may affect not only the outcome of that shot but also the end in progress and possibly the game. A competitive curling team does function as a highly interactive group. Performance outcomes are directly related to the degree to which the interaction between players results in proper execution.

Leader effectiveness (Fiedler, 1967) depends upon the degree to which the situation facing the leader provides him with an opportunity to exert his influence. Three important factors which determine the favorableness of the situation vis-à-vis leader influence are the leader-member relations, degree of task structure, and the power of the leader. The following discussion assesses the competitive curling team as a small, interacting, task-oriented group with respect to these three factors.

First, it is important to recognize that curling teams are formed by mutual consent. Frequently, it is the skip who recruits others to play on his team. Teammates, who generally like, trust, and respect the skip, willingly comply with his decisions on matters such as the competitions to be entered and the style of play to be used during games. There is general recognition that the skip has a comparatively high level of skill and good judgement suitable for playing the demanding position on which the team's fate will often rest. In short, leader-member relations on competitive curling teams can be characterized as positive. Curling is an amateur sport most participants play for principally non-monetary reasons. Most curlers have socially-oriented motives as well as achievement-oriented motives. Since teams generally spend a considerably amount of time socializing, if leader-member relations become negative, the team will usually break up at the season's end.

Second, the task facing the curling team is definitely a structured one. The goal is very simple - outscore the opposition in a ten end game. The duties and responsibilities formally and informally assigned to each position are routinized. Strategies employed can

be complex; however, most situations that arise frequently are responded to in rather standardized patterns. For example, this would be especially true if two opposing teams both utilize a simple takeout strategy designed to keep the number of rocks in play to a minimum. As more rocks come into play during an end, decision-making then requires that more alternatives be considered. Even so, agreement among teammates is often reached with regard to how certain situations should be approached.

Third, the power of a leader's position is defined by Fiedler (1967, p. 22) as "the degree to which the position itself enables the leader to get his group members to comply with and accept his direction and leadership." In curling, the skip is clearly the task master. He is generally seen as the "boss" or at least the person having the final say in discussions about matters such as strategy. By virtue of his role and associated responsibilities discussed earlier, skips possess considerable influence. Usually, team members look for decisiveness and direction. They expect to be told which turn to use and what weight to throw when executing even the most routine shots.[2] After the shot is delivered, the skip takes charge and calls the line on sweeping. When there is team discussion concerning a crucial shot to be played by the skip, the conversation frequently ends with team members deferring to the skip saying, "Since you're the one who has to throw the shot, it is your choice. Play the one you're most confident in."

In summary, a competitive curling team presents its skip as leader with a very favorable situational context in which to exert

his influence. Teams are supportive and interpersonal relations are positive. The task is one of managing a series of events taking place over a specified period of time on a sheet of curling ice. Players' roles and responsibilities are differentiated, well-defined, and understood. The decision-making authority of the skip is taken for granted and most of the time team members willingly comply with their leader's choices. When discussion takes place, it is most often the skip who has initiated the contact yet his input weights most heavily. If concensus is not reached, it is the skip who finds his team urging him to choose a course of action.[3]

As well as varying with the situational context facing the leader, Fiedler suggests that group performance depends upon the leadership style of the leader. Leadership style is defined as "the underlying need-structure of the individual which motivates his behavior in various leadership situations" (Fiedler, 1967, p.36). Two basic leadership styles are characterized.

On one hand, there is a relationship-oriented style. A leader exemplifying this style is described as democratic, permissive, and non-directive. He strives to satisfy a need for self-esteem by maintaining good interpersonal relations among group members. A relationship-oriented leader "will concern himself with the task in order to have successful interpersonal relations" (Fiedler, 1967, p.46).

On the other hand, there is a task-oriented style. A leader exemplifying this style is described as autocratic, controlling, and directive. He strives to satisfy a need for self-esteem. Satisfaction is achieved to the degree that the group fulfills its task. A

task-oriented leader "will concern himself with the interpersonal relations in order to achieve task success" (Fiedler, 1967, p.46).

These two different types of leaders also have different perceptions of the group members with whom they work effectively or ineffectively. When asked to describe the individual with whom they work best and least well, several important differences between task-oriented and relationship-oriented leaders' perceptions are evident. A relationship-oriented leader tends to describe his most preferred and least preferred co-workers (teammates on a sports team) as more similar than does the task-oriented leader. In describing his least preferred co-worker, the relationship-oriented leader seems to place minimal emphasis upon that group member's task performance in the group as a basis for evaluating his personality. Although the person described by the relationship-oriented leader is least preferred as a co-worker, because he presumably has demonstrated ineffective task performance, he is still perceived in a relatively positive way as a person. The task-oriented leader's personal perception of a group member's personality seems to be related more directly to how the person has performed the task in the group. For the task-oriented leader, the least preferred co-worker who has demonstrated ineffective task performance is perceived in relatively negative terms as a person. This is in contrast to the task-oriented leader's perception of his most preferred co-worker. The most preferred co-worker for him is someone who is very task effective and is evaluated very positively as a person.

Operationally, leadership style is measured by having a leader

describe his most and least preferred co-workers (Fiedler, 1964). The description of the least preferred co-worker (LPC) constitutes one measure of leadership style. The difference between the descriptions of least and most preferred co-workers (MPC and LPC) constitutes another. This second measure reflects the degree to which opposites are seen as similar or different (ASo). These two measures tend to correlate highly although they are usually both considered in analyses relating leadership style and group performance.

Fiedler's Contingency Model of leadership effectiveness proposes that task-oriented leaders will be most effective when the situation is highly favorable for the leader to exert influence. Considering the task-oriented leader's need to derive a sense of self-esteem through the achievement of task success such a leader will be effective when group members are receptive to his directing and controlling style. One characteristic of a favorable leader influence situation described is that featuring a highly structured task. In such a situation, the group members share known common goals, and the means (operating procedures for achieving task success) are clearly specified. Another characteristic of a favorable leader influence situation is one where the leader's power position is strong. When this is the case, group members will respect the leader and look to him for direction and guidance. They will expect decisiveness consistent with the task-oriented leader's tendency to be directing and controlling. Finally and of most importance, if leader-member relations are positive the leader is not only

respected, but he is liked and trusted. Consequently, the task-oriented leader need not be overly concerned with maintaining harmonious relations within the group in order to achieve personal satisfaction through task success. Support for his decision-making is something he can take for granted.

Fiedler (1967) reports numerous studies of military combat units characterizing favorable leader influence situations. The consistent finding is that group performance correlates negatively with the LPC and ASo measures of leadership style. Consequently, when the group's task is structured, the leader's power is strong, and the leader-member relations are favorable the most effective leader typically has a task-oriented style.

It has been suggested earlier that competitive curling teams present a situationally favorable context in which a leader functions. Consequently, it is hypothesized that teams with task-oriented skips will be more successful than teams with relationship-oriented skips. The task-oriented skip is more concerned with the promotion of task success. Thus, he is more likely to take better advantage of the group environment in which task success is actively sought and valued to a high degree by all group members.

B. Group Cohesion

1. The "Taken For Granted" Belief

There is widespread belief that success in team sports is linked in an important way to social group cohesion despite the rather vague meaning of the term and the multiplicity of ways it is used by athletes and coaches. Considering the social history of

curling with its strong emphasis on fraternization and sportsmanship, it is not surprising to find this belief in cohesiveness as a determinant of success very much in the minds of competitive curlers.

Watson (1950) wrote what many consider to be the first formal textbook on curling in which he discussed skill, strategy, and team play. He outlined a curling success equation comprised of fourteen different physical, mental, and spiritual characteristics. Watson also named the "Big Six". These were basic requirements that had to be met by players and teams in order to have real success potential. Compatibility (group cohesion) was placed at the very top of Watson's list, notably ahead of the need for skill and the will to win.

In the present study, competitive curlers were asked to identify the five most important ingredients of team success as a means of assessing the current belief in cohesiveness as a determinant of performance.

2. Group Cohesion - A Definition

Festinger (1968) defined cohesion as "the resultant of all the forces acting on members to remain in the group". Cohesion is seen as a property of small groups such as sports teams. It exists to the extent that the members of the team are bound together as a unit seeking the achievement of common goals such as victory in a competitive environment.

Cohesion is exemplified by teamwork and effective co-operation among group members. It is characterized by minimal or an absence of open conflict and hostile feelings between teammates. Further, it is characterized by the degree to which teammates display

harmony in their interpersonal relationships with one another on and off the playing surface.

Gross and Martin (1952) have suggested that group cohesion can be measured effectively by simply asking group members a direct question concerning the degree of group cohesion that is felt to exist at the time. This approach does not attempt to deal with the notion that group cohesion may be the product of a variety of conceptually different forces.

In their study of basketball teams, Martens and Peterson (1971) suggested there were numerous forces acting upon members to remain in a group. Consequently, a truly operational definition of cohesiveness must encompass these forces. For example, they measured group cohesion by having team members make judgements of each other and the group as a whole on nine different nine-point rating scales. This multidimensional conceptualization of cohesion was incorporated into the present study as skips rated the extent to which they saw their team members getting along together in four different situational contexts - while the team was winning both on and off the ice and while the team was losing both on and off the ice.

3. Group Cohesion And Team Performance

Numerous studies have been reported in an effort to describe the empirical relationship between a sport team's performance and group cohesion. However, the findings are often contradictory, and hence, the relationship between these variables is not clearly understood (Lott and Lott, 1965). In some cases, the two variables have been found not to be related while in other cases group cohesion appears to be either a determinant or a consequent of team performance.

Straub (1975) suggests that the relationship between these variables may also differ from sport to sport but adds that little evidence is available to support this belief.

Martens and Peterson (1971) surveyed twelve hundred male undergraduate students who were divided into one hundred and forty-four intramural basketball teams. The teams that tended to be more successful were those having players who perceived a higher level of teamwork and a higher level of closeness among teammates. Since the cohesiveness data were collected prior to the first league game, the evidence suggests that cohesion may be a determinant of team success. When Martens and Peterson measured cohesiveness by referring to the team member's attraction to the group, no relationship between cohesiveness and team performance was found. When cohesiveness was measured in reference to the individual's attraction to the group in other studies, similar results were reported by Gross and Martin (1952), Eisman (1959) and Scott (1965). Fiedler (1967), in several studies of high school basketball teams, has found that there is a trend for the most cohesive teams to have poorer team performance records. He has suggested that the less cohesive teams place greater emphasis on performance and become more successful having relegated "the satisfactions of good interpersonal relationships to second place in the hierarchy of values" (Fiedler, 1967, p.68).

Straub (1975) reports research findings of Arnold (1972) and Petley which show that high school basketball and wrestling teams were found to be more cohesive at the season's end, provided that a degree of success had been experienced. It would seem from these

studies that a team's cohesiveness level may be a response to success or failure rather than operating as a determinant. If one reflects upon live television coverage presenting locker room scenes following a major championship game in professional sports one sees that winning appears to produce a great sense of joy and a sense of enhanced closeness (cohesion) among team members.

In a study of intercollegiate hockey teams, Carron and Ball (1977) found that measures of cohesion taken at the time of performance or shortly thereafter showed significant positive correlations with team performance. However, contrary to Martens and Peterson, when cohesion measures were taken well in advance of performance the results showed no relationship between cohesiveness and subsequent team performance. These findings suggest team cohesion is more a response to a performance level rather than a determinant of a performance outcome.

Considerable interest has also been shown in the findings of Lenk (1977) with respect to the relationship between cohesion and team performance. In an effort to refute the validity of the group cohesion - team performance hypothesis, Lenk offers evidence wherein he describes two separate eight man rowing teams. Each had had considerable international success in competition despite displaying a high degree of group conflict (or a lack of cohesion). In fact, performance was observed to be improving while conflict was increasing (and cohesion was decreasing). Lenk argues that conflict can be a divisive force that minimizes cohesion. A group may encounter this force to the point of disbanding the team; however, until this

point is reached Lenk's data show it is possible for a team's performance to be very good despite low levels of cohesion. It is important to note that Lenk gathered data in the study of world class athletic teams whereas much of the previous research discussed has examined very average high school and university participants.

It may be relevant to consider that the relationship between group cohesion and team performance is not necessarily a unidirectional one. Martens and Peterson (1971) suggest that certain performance outcomes result in predictably positive or negative satisfaction levels in the individual team members which in turn gives rise to certain levels of group cohesion. If teams remain intact, the existing level of cohesion may affect future performance to some extent. Performance in turn affects the level of satisfaction experienced by team members which in turn affects cohesion. Thus, it is suggested that a circular relationship may exist between these three factors of satisfaction with performance, group cohesion, and team performance. In addition, the authors conclude that although cohesion may be one determinant of performance, there are other primary factors of greater importance such as the ability of the players and their opponents, the quality of coaching, the officials, etc.. However, it is interesting to note that the factors of prominence mentioned above do not all pertain to the sport of curling. There is a noticeable lack of coaches in curling and officials are called upon to deal with situations only when the teams involved cannot settle them privately.

In the present study, skips of competitive curling teams were asked to assess their team's level of social cohesiveness with regard to four situational contexts - while the team is winning both on and off the ice and while the team is losing both on and off the ice. Considering the uncertainty regarding the relationship between cohesion and team performance no specific predictions are outlined here.

C. Conflicting Life Demands

1. Conflicting Life Demands And Winning In Amateur Sport

Winning consistently over a period of time in a competitive amateur sport is dependent upon the degree to which an individual's abilities and resourcefulness are applied in a sustained and continuous manner. Aside from being highly talented and skilled, an individual must generate an intensity to perform at a high level in relation to the competition encountered. Intensity stems from mental preparation. Within the context of this discussion, mental preparation has two important meanings. Mental preparation may refer to the development of a general readiness to compete. This is seen as preceding any specific period of intensity building or "psyching up" for a particular event. This development of a general readiness to compete refers more to how an individual orders priorities in life so as to accommodate potentially conflicting demands made upon his time, money, and energy. Mental preparation may also refer to that specific pre-game or pre-competition psyching up period. The former aspect of mental preparation mentioned will be of concern in the present study.

The degree to which an individual can full apply himself to competitive events may be dependent upon his general readiness to even begin the psyching up period of mental preparation. Numerous factors may potentially facilitate or hinder development of this general readiness aspect of mental preparation. Such factors are likely to be related to the individual's commitments and how he accommodates the demands of amateur sport with other demands. Commitments imply priority setting which in turn suggests that certain trade-offs or sacrifices are made by the aspiring athlete.

The present study examined the importance of conflict between amateur sport participation in curling and concerns related to work, marriage (family), and non-work, non-marriage factors insofar as this potential conflict was related to the performance of curling teams. Specifically, how the skips of curling teams dealt with these considerations was examined in relation to the performance records of teams involved.

2. Conflict Between Work And Curling

To compete in major curling events it is necessary for an individual to occasionally be absent from work. Half day absences are required for morning or afternoon games when events are held in an individual's home community. Further complication is added when one considers that game times are often not known more than two or three hours in advance as they frequently depend upon the team's performance in a previous game. As well, curlers often take full days off work thinking that curling and work do not really mix. It is difficult to mentally prepare for a game while trying to work at the same time and

vice versa.

Competitive events held out of town present more substantial demands upon an individual's time and flexibility in terms of arranging for work absence. Normally in these cases, Thursday is partially a work day and partially a travel day unless the curler can reach his destination via evening air flights. Major events usually begin Friday morning. All teams except for the quarter-finalists are eliminated by Sunday evening (or earlier depending upon how a team does). Quarter-finalists compete on Monday in a sudden death playoff. Consequently, time on Tuesday is often required by some teams for travel home.

Some curlers are able to report work absence as holiday time. Sometimes, substitute employees must be found as paid replacements. For others, it may be recorded as a day of lost earnings. For the self-employed, no business is transacted and thus no income is generated despite the fact that normal operating expenses may be incurred. And for some fortunate souls, work absence has no fixed costs as all absences are accepted by the employer provided that the employee produces a sufficient quantity of work while he is on the job. In some cases, time off the job is made up for in terms of overtime or overload at different times throughout the year.

Aside from the obvious need for flexibility in the way one utilizes holiday time and the way one records the hours in a work week, there are other important considerations regarding the relationship between a curler's work and his amateur sport.

Continual work absence for the purpose of curling can potentially pose a threat to job security, to receipt of performance

increments, to allocation of responsibility, and to promotion opportunity. The classic employer-employee confrontation that has been a reality for many curlers serves to illustrate the implications a curler must face regarding his work. The confrontation features the employer telling the curling employee that he must decide whether the future is work-related or curling-related.[4]

For the few who do succeed in curling it usually takes several years of competitive experience. However, the conflict between work and curling often precedes any real, tangible evidence of success. Employers are often asked to make concessions when it appears that the employee is wasting time chasing after glory in an amateur sport that may not seem meaningful to the employer in any way whatsoever. Success in curling is usually achieved by males who are in their late twenties or early thirties. Ironically, this success may come just at a time when the same individuals are in a position to realize potentially significant career advancement. Pressure from teammates for greater commitment often arises when the individual's job responsibility, status, prestige, and pressure are also on the rise. As greater curling success is achieved the conflict between work and curling may increase and more time away from work may be needed.

The importance of a supportive employer in accommodating work and curling demands must be emphasized. An employee who knows that his job is secure and his future opportunities are not in jeopardy is under considerably less stress than the employee who has a non-supportive employer. The former individual does not experience the pressures and anxiety that can be associated with work absence. This

individual can relax and focus attention on the task at hand. He has the security of knowing that work can be done in due time and consequently he does not experience the feeling of being overwhelmed by work-curling conflict. An employer having a supportive orientation toward curling may also tolerate a lack of quality or quantity in an employee's work which may be evident for a time after competition as the disappointed curler suffers from depression and general malaise. Longer competitions requiring travel on Thursday, competition Friday through Monday and travel again on Tuesday can leave competitors emotionally and physically exhausted whether they have finished eighth or first. Several days may be needed for an individual to "wind down" and return to normal functioning. If the curler competes in two events per month for five or six consecutive months, work and curling performance can both decline as a result of the potential conflict and associated anxiety.

The role of these work related concerns as correlates of team performance will be examined in the present study. Each skip was asked to rate his employer's supportiveness regarding work absence, the ease or difficulty experienced in being absent from work, and the degree to which the skip feels work-curling conflict is having a negative impact on his curling performance. It is hypothesized that:

(a) The higher the level of employer support received by a skip the better his team's performance record will be.

(b) The greater the ease with which a skip is able to be away from work to compete the better his team's performance record will be.

(c) The less work-curling conflict seen by a skip as affecting his on ice curling performance negatively the better his team's performance record will be.

3. Conflict Between Marriage (Family) And Curling

The skips involved in the present study tend to be married and over thirty years of age. Eighty-five percent of them are thirty years of age or older and eighty percent of them are married. Over two-thirds of the married skips have children.

The wives occasionally refer to themselves as "curling widows". Indeed, when an individual chooses to pursue recognition and excellence in curling this decision can have a pervasive impact on the competitor's marriage and family life. It may also affect his curling performance in a negative or a positive way depending upon the circumstances of the individual's life situation. The most common constraints associated with conflict between curling and marriage (family) are discussed below.

Curling certainly requires a considerable time expenditure. There is at least one and possibly two evening league games during the week starting in October and ending in March. League games usually include a session of socializing with teammates at the curling club. In addition, time is needed for practicing, physical conditioning, and team meetings. The major and minor competitive events fall on weekends. Aside from the fact that all of the above activities require a substantial investment of time, it is crucial to consider how a curler's spouse may view the situation. It is not at all impossible for a spouse to view the time spent as socializing with friends, having fun, and playing a game. To the spouse it may very

well appear that the individual is out having a good time while she stays home night after night and on weekends. When children are involved this potential conflict can become even more serious since there is doubtlessly less sharing of child-rearing responsibilities. Time spent curling can come to be viewed in a negative way since it constitutes time that would otherwise be available to the marital relationship.

Curling requires a considerable financial expenditure. It is expensive. If one travels to a major competition, the standard expenses for travel (airfare), accommodation, food, entry fees, and equipment will be between four and five hundred dollars per person. This estimate does not include lost wages as a result of work absence nor the added cost if a spouse accompanies the curler. There is variation in how much competitive curlers spend. In the present study, approximately two-thirds of the curlers spend more than one thousand dollars and one-fifth of the curlers spend more than two thousand dollars per season.

Curlers are competing for scarce resources insofar as prize money is concerned. Despite being the top competitive curlers in the province of Alberta, curlers in the present study indicated that for one-half of them curling expenses exceeded prize money while one-third reported prize money exceeded expenses. In most events of a competitive nature, twenty-five percent of the teams (8 in a field of 32) reach the quarter-finals and thus share a portion of the prize pool. Usually, one half of these teams (4 out of 8 quarter-finalists) win the equivalent of expense money. The others win between twice the value of expenses up to as much as ten

times the value of expenses.[5] Clearly, there are always many more losers than winners in a financial sense. Competitive curling for many individuals is a losing proposition, year after year. Although most curlers aim to break even to consider the year successful in a financial sense, there is an elite group of teams which always make more money than expenses. The important point here is that the money spent on curling is money from the family budget. Curling can be a significant drain on resources especially when lost income is considered in the calculations.[6]

As mentioned earlier, curlers frequently reduce work-curling conflict by recording work absences as holidays. This strategy partly solves the lost income problem but aggravates another. There may be a reduction in the number of days available for summer vacation. Year after year this practice may cause considerable stress in a marital relationship depending upon the spouse's assessment of the implications. Winter vacations are virtually out of the question because they tend to severely interrupt the competition schedule and may hinder performance.

Other considerations which may see stress accumulating in a marital relationship are related to the trade-offs a curler might make regarding his work which indirectly affect life at home. An individual's workload may seem to increase because of absences while curling. This increased workload on the job may mean longer work hours and fewer hours spent at home when the individual has a break between competitions.

Although the final point may be least important in relative terms, it is often the final straw as far as the spouse is concerned.

Planning social activities on weekends while competitions are held is difficult. During competitions the individual curler never really knows when he will have to play his next game more than a few hours in advance. If there is a conflict between a social engagement and a curling game, the former commitment is subsequently cancelled on short notice.[7] The associated disappointment and possibly embarassment is frequently greater for the spouse who may have waited and planned to attend the social occasion several weeks in advance only to find plans changing a mere three or four hours in advance of the social occasion.

The importance of having a supportive and understanding spouse cannot be underestimated. There is continual opportunity for stress to accumulate in a marriage such that there is real conflict between a curler's marriage (family) demands and the demands of his sport. Some of the conflict generating constraints have been discussed without making the point of stressing how difficult it can be for a spouse when her partner is experiencing painful loses. It is not only the employer who must cope with a disappointed and depressed curler.

In the present study, skips reported their perceptions of the degree of wife support received in regards to their curling and the ease or difficulty experienced in being away from home to curl. Skips were also asked to assess the extent to which conflict between curling demands and home demands affects their curling performance negatively.

It is hypothesized that:

(a) The higher the level of wife support received by a skip the better his team's performance record will be.

(b) The greater the ease with which a skip is able to be away from home to compete the better his team's performance record will be.

(c) The less marital (family) - curling conflict seen by a skip as affecting his on ice curling performance negatively the better his team's performance record will be.

4. Conflict Between Non-work, Non-marital Factors And Curling

A curler may have other responsibilities which require time, money, and energy in addition to work and marriage (family) concerns. These may include such activities as community service through volunteer work, church attendance, managing investments, managing household finances, maintaining contact with friends and family, pursuit of interests, hobbies and sports on a recreational basis. The specifics of these demands will vary from individual to individual; however, the general impact they have on curling performance may be similarly negative. Given the considerable demands involved with work and marriage (family), these additional constraints may become problematic and a cause for concern.

In the present study, skips assessed the degree of conflict that exists between these external factors and curling such that curling performance was affected negatively. It is hypothesized that the less external demand - curling conflict seen by a skip as affecting his on ice curling performance the better his team's performance record will be.

FOOTNOTES

1. Sweeping serves two general purposes. First, sweeping with corn brooms or brushes in front of a rock as it slides down a sheet of ice reduces the friction between the running surface of the rock and the ice. Given the force with which a rock is delivered initially by the thrower, the distance it will travel can be increased substantially by sweeping. Second, sweeping tends to keep a rock travelling in a straighter line as it slides down the ice.

2. A rock can be thrown with a clockwise spin or a counter-clockwise spin. Consequently, the skip must decide whether to have his player use the in-turn or out-turn on each shot.

3. When it is the third's turn to throw a shot, a skip may give the decision-making power to the third who then chooses the shot he would rather be asked to play. The third may also be allowed to select the turn to be used and the weight to be thrown; however, the skip is still primarily responsible for specifying how much ice is needed to make the shot outlined by the third.

4. The skip of the team that won the Alberta Men's Provincial Championship in 1979 was confronted by his employer regarding the conflict between work and curling in that year. This individual chose to focus all of his attention on curling and was rewarded with a trip to the "Brier" - The Canadian Men's Curling Championship.

5. This discussion assumes that "expenses" are those that would be incurred by a team playing in a major competition away from home.

6. Curling can be a drain on resources and this reality tends to determine which individuals enter into the field of competitive curling to begin with. More than one-half of the skips surveyed in the present study reported total household incomes before taxes in excess of $30,000.

7. Another alternative that could be considered would involve letting the team play its next game with three players. However, this practice is rarely seen and would be viewed very negatively by teammates who would seriously question the individual's commitment to the team and the goals that had been set.

CHAPTER THREE

METHODOLOGY

A. Sample Selection

The focus of the present study was concerned with top competitive curling teams. Consequently, a purposive sample of sixty-four teams was selected from those competing in the province of Alberta. All men's teams playing in the three major competitive leagues in the province were selected in addition to other active teams having established good performance records during the 1970's.[1] The purposive method of sample selection made it possible to identify a relatively homogeneous pool of elite teams for study in which variation in ability and experience of the players on those teams was minimal. Having controlled for ability and experience through sampling high quality teams, it was possible to correlate team performance records with a number of social characteristics as a means of identifying correlates of success in top competition. It must be kept in mind by the reader that the findings of the present study reflect the restrictive nature of the sample selected and must therefore be interpreted accordingly.

The sample size was set at sixty-four teams because only a limited number of good teams were available for inclusion in the study. It would have been extremely difficult to select more teams. Beyond the top sixty-four teams, the field is highly variable in terms of ability and experience - factors which the present study has tried to control for. Fewer teams could have been used in the present study as a means of standardizing ability to a greater extent but there may

have been a danger of obtaining insufficient data on which to base an analysis.

B. Data Collection

Data were collected through the administration of a self-report questionnaire. Initially, the skip of each team sampled was contacted in writing. The purpose of the study was described and the skip was asked for permission to include his team in the study. A permission form was enclosed along with a self-addressed, stamped envelope (Appendix 1). Each skip was asked to consult his team and indicate whether permission was granted. If permission was granted, the skip was requested to provide the names and addresses of his teammates so that a mailing list could be developed and used in distribution of the questionnaire (Appendix 2). However, few skips responded and it was difficult to know if permission was being withheld or granted. It was assumed that no response to the permission request meant that the skip was simply too busy to reply. Thus, all skips were sent questionnaires except for the one who did specifically ask not to be included in the study.

Since the permission procedure failed as a means of constructing a mailing list for questionnaire distribution, it was necessary to send each skip four copies of the instrument. The skip was asked to pass copies on to his teammates. However, delays arose and some skips did not distribute the questionnaires as requested. Insofar as it was possible, questionnaires were delivered personally to curlers by the author. Otherwise, they were mailed. In either case, a self-

addressed, stamped envelope was provided.[2] Follow-ups were made by telephone and in writing two weeks after the personal and mail distribution of the questionnaires.

C. Measurement Of Concepts

1. Introduction

There were four key concepts of concern in the present study. They were group cohesion, leadership style, conflict between life demands and curling demands, and team performance.

2. Team Performance

Team performance was measured in conjunction with the self-report questionnaire. Each skip was asked to list the competitive events his team had entered between September and December, 1978. Only events having first prize money greater than $1,000 were considered. Consequently, team performance was measured only with regard to events generally attracting strong competitive entrants. As well, for a skip to indicate having played in an event at least three members of his regular team had to be present.

Competitive events were classified as having minor or major status. A minor event was one having a first prize of less than $5,000. Minor events typically had first prize money equal to $2,000 or less. A major event was one having a first prize equal to or greater than $5,000. Major events typically had first prize money equal to $8,000 - $12,000 and the largest had a first prize of $20,000.

Teams entering major events are usually invited from several regions and provinces. Consequently, competition in major events is substantially tougher than that found in local minor events. The

format for declaring teams reaching the sudden death playoff for the prize money is usually triple knockout in major events whereas a double knockout format is used in minor events. This difference in format between major and minor events along with the difference in the overall quality of teams entered makes performance in major events more indicative of a team's real level of task success.

To curlers, major events are viewed as considerably more important. Entry fees are four to five times greater in majors than minors. And teams often have travelled out of town to play in a major so additional costs are associated with this consideration. Winning a major brings considerable peer recognition and status in the community of curling. This distinction between major and minor events may be important in that the variables which correlate with performance in majors may differ from those correlating with performance in minors.

Aside from the double or triple knockout difference between major and minor events, all competitive events have essentially the same format. Teams play qualifying rounds until eight teams advance to a sudden death playoff. In view of this basic similarity across events, it is possible to define seven different levels of success or failure that a team may achieve in an event. In a thirty-two team competition, the typical size of most events, it is possible to determine the maximum number of teams that can attain each level. These levels are presented on the next page.

Level	Maximum Number Of Teams Able To Achieve This Level - 32 Teams
1 - Lost out in straight games	4
2 - Won at least one game but did not play a qualifying game	12
3 - Reached a qualifying game but lost	8
4 - Qualified and lost first game in playoff	4
5 - Reached semi-final and lost	2
6 - Reached final and lost (runner-up)	1
7 - Won the event	1
	Total = 32 teams

Having obtained a list of events each team had entered from the skips who had in turn indicated the level of performance achieved in each event, a point system was developed so that performance in various major and minor events could be aggregated.

The point system was developed to give a relatively precise recognition for different levels of performance in competitive events. Given the seven levels of possible performance and a knowledge of the maximum number of teams that could attain any one of the levels, it was possible to represent these levels by scores reflecting how a team would rank in a competition for any performance level. The performance score associated with each level is the mean rank of the maximum number of teams reaching a similar level of performance in a competition. For example, a Level 1 performance is attainable by a maximum of four teams. These teams would rank 32nd, 31st, 30th and 29th in a thirty-two team field. Since the four teams have actually

tied for last place, this level of performance can be represented by the mean of these four rank positions - a score of 30.5. The score associated with each level of team performance is presented below:

Level	Score	(Mean Rank)
1	30.5	Mean of positions 29 to 32
2	22.5	Mean of positions 17 to 28
3	12.5	Mean of positions 9 to 16
4	6.5	Mean of positions 5 to 8
5	3.5	Mean of positions 3 and 4
6	2.0	Second place finisher
7	1.0	Winner of event

For each team, a performance score was generated for major and minor events. Mean team performance scores were computed if the skip reported an outcome in two or more major events and/or in two or more minor events.[3]

It is crucial to emphasize the difference between performance in major versus minor events. For example, a team finishing between fifth and eighth in a major event would win as much money as would a team that won a minor event. Since the same point system is used in scoring team performance in major and minor events, a team could derive the same numerical score in major and minor events but there would be a substantive difference. As a result, team performance in major events is considered separately from team performance in minor events in the correlational analysis involving other variables.

3. Conflicting Life Demands

a. Conflict Between Work And Curling

The extent to which work demands posed a problem for curlers was assessed by three questions. First, in terms of a five-point rating scale varying from very supportive to very non-supportive each respondent was asked to rate the degree to which his employer (immediate superior) was supportive of his curling when it required him to be absent from work. A five-point scale was used to allow for a neutral category (neither supportive nor non-supportive). It was felt that since employers may have been essentially indifferent respondents had to be provided with this response category as an option in answering the question. Second, in terms of a six-point scale varying from extremely easy to extremely difficult each respondent was asked to indicate the degree of ease or difficulty associated with being absent from work in order to participate in competitions. In this case, the question was structured such that the respondent had to choose between a rating of easy or difficult. Thus an even numbered scale was used that also allowed for considerable variation in responses. Third, in terms of a four-point rating scale varying from not at all to to a great extent each respondent was asked to rate the extent to which his curling performance was affected negatively by conflict between job demands and curling demands. A four-point scale was used in this instance as it was felt that curlers could not be expected to make finer distinctions beyond those built into the categories of not at all, to some extent, to a considerable extent, and to a great extent.

b. Conflict Between Marriage (Family) And Curling

The extent to which home demands posed a problem for respondents was assessed by three questions. Only respondents whose marital status was married or common law answered these questions. First, the degree to which a respondent perceived his spouse to be supportive or non-supportive of his curling was rated on a five-point scale ranging from very supportive to very non-supportive. Second, the degree to which a respondent found it easy or difficult to be away from home (although not necessarily out of town) to compete was rated on a six-point scale ranging from extremely easy to extremely difficult. Third, respondents were asked to rate the degree to which their curling performance was affected negatively by conflict between the demands of marriage (family) and the demands of curling. A four-point scale was used in this case which ranged from not at all to to a great extent. The rationale for using rating scales of varying lengths in this area was the same as that presented in regards to the work-curling conflict questions described earlier.

c. Conflict Between Non-work, Non-marital Factors And Curling

The intent was to measure the importance of those additional pressures an individual may experience aside from those associated with work demands and home demands. The question asked was intended to have respondents think about those rather extraneous demands by having defined what they were not, namely home and work-related demands. Each curler was asked to gauge the degree to which his performance was affected negatively by conflict between these other

non-work, non-home demands placed upon his time, money, and energy and the demands of curling. Ratings were made on a four-point scale ranging from not at all to to a great extent as in the case of previously mentioned questions of similar style.

4. Group Cohesion

The intent of the present study was to focus on the individual curler's perception of the degree of cohesiveness felt to exist on his team rather than measuring cohesion through observation of team behavior on and off the playing surface. Another concern was related to the idea that a team's cohesion level may fluctuate in response to the team's performance. Consequently, questions were asked in regards to cohesion when the team was winning and when the team was losing. A final concern was related to the fact that team cohesion seemingly changes from time to time. More specifically, cohesion may vary with the setting (on the ice surface and off the ice surface). Consequently, questions were asked in regards to cohesion when the team was on the ice competing and off the ice socializing. Ratings of the degree to which teammates were seen as getting along were made on five-point scales ranging from excellent to poor.

As well, each curler was asked to indicate how many of his teammates were considered to be personal friends. This measure was considered as a possible indicator of the degree of team cohesion.

5. Leadership Style

It has been found that leader effectiveness as measured by group performance depends upon the leader's style in emphasizing task success or interpersonal harmony and the situational context in which

the leader must function. A measure of leadership style has been developed by Fiedler (1951) and Cronbach and Gleser (1953). The central idea involved in this measure is to have a leader describe his most and least preferred teammates and to examine the assumed similarity between the descriptions of these opposites. The descriptions are obtained by having the leader make ratings on eight-point scales described at either end by bipolar adjectives (Osgood, 1957). Sixteen rating scales were used. The score representing the assumed similarity between opposites (ASo) is derived by comparing an individual's ratings on each of the sixteen scales. Any differences between the ratings of least and most preferred teammates are squared and these squared differences are summed over all sixteen scales (Cronbach and Gleser, 1953).

As well as the ASo score, the score obtained by examining only the leader's description of his least preferred teammate is used as an indicator of leadership style (Fiedler, 1964). This LPC score is obtained by summing the ratings of the least preferred teammate across the sixteen scales used.

Both ASo scores and LPC scores obtained from the skips of teams surveyed were used in the analysis. Correlations between ASo scores and LPC scores and team performance in major and minor events were examined to determine if the skip's leadership style was related to team performance in curling.

This technique of measuring an individual's leadership style has been used extensively by Fiedler and others since 1951. In general, the instrument has been shown to have relative stability over time. Based on twenty-three different studies, Rice (1978)

reports a median test - re-test reliability coefficient of .67 for LPC scores. Consequently, Fiedler argues that LPC is a stable measure of a personality trait. The LPC scale has also been shown to have high internal consistency. Split-half reliability coefficients exceeding .90 are reported (Fiedler, 1964). In the present study, an item analysis revealed that scores on the sixteen individual scales used correlated highly with total LPC scores. With the exception of one rating scale (relaxed-tense; $r = -.14$, $N = 40$), the item correlations with total LPC scores ranged from .43 to .86 ($N = 40$, $p \leq .003$). The mean correlation coefficient across all sixteen items was .56.

The validity of the LPC and ASo scores as measures of leadership style have been questioned by Schriesheim and Kerr (1977); however, there is consistent evidence that indicates task-oriented leaders (low LPC) do perform better than relationship-oriented leaders in situations characterized by positive leader-member relations, high task structure, and strong leader power position (Fiedler, 1967, 1978; Chemers and Skrzypek, 1972). In addition, there is support for the general predictions Fiedler has made based upon his contingency model of leadership effectiveness and accompanying measure of leadership style (LPC) (Fiedler, 1967).

D. Data Analysis

The original intent of the present study was to examine several social characteristics of curling teams in relation to performance records. Questionnaires were distributed to each member of sixty-four teams in the sample. One hundred and fifty (representing 53

different teams) of the two hundred and fifty-six questionnaires were returned by respondents yielding an overall response rate of 58.6%. More importantly, a complete set of four questionnaires was only received from eighteen teams. Only twelve of these teams had entered two or more major events and only six had entered two or more minor events. Consequently, the plan to base analyses upon an examination of complete team data was abandoned.

The present study was limited to a consideration of the skips' data only. Of the sixty-four questionnaires distributed to skips, a total of forty-one were completed and returned yielding a response rate of 64%. Of the forty-one skips who returned questionnaires, nineteen reported team performance outcomes in two or more major competitions and fifteen reported team performance outcomes in two or more minor competitions.

Given the small sample size, the measure of association used throughout was the Pearson's correlation coefficient. Consequently, all variables correlated with team performance have been assumed to have been measured at the interval level. Analysis was restricted to an examination of correlations between variables as if the pattern of association was linear.

Finally, it is important to remember that all analysis has focused on data which reflected the skip's perceptions of his team. The following section contains a description of these skips and some of their perceptions and beliefs.

E. Profile Of The Skips

The skips were asked to describe their curling background, their motives for participating in the sport, and their beliefs about the ingredients of team success. In addition, they provided basic, personal demographic information. Consequently, it was possible to develop a profile of these forty-one skips who returned completed questionnaires.

Sixty-four percent of the skips were between thirty and thirty-eight years of age. The median age was thirty-four years (Table 3.1). Ninety percent were employed on a full-time basis (Table 3.2). Eighty percent were married or living in a common-law arrangement (Table 3.3). Total household income was less than $15,000 for ten percent of the skips and greater than $30,000 for fifty percent of them (Table 3.4). Curling expenses for the 1978-79 curling season were estimated to be approximately $1,500 on average excluding the cost of lost work time (Table 3.5).

Generally, the skips were experienced as seventy-five percent had played for sixteen years or more on a regular basis. For almost one-half (49%) of these skips, ten of the sixteen years were spent in top competitive curling (Tables 3.6 and 3.7). In addition, all skips reported that they would continue to compete for another 9.3 years on average (Table 3.8). This finding was not surprising when one considers that only eighteen percent of the skips felt they had past their "peak" years while thirty-six percent felt they were in their "peak" years now and forty-six percent of the skips felt they had not yet reached their "peak".

Table 3.1 Age Distribution Of Skips

Age (years)	Percentage of Skips
18 - 20	2.4%
21 - 23	2.4%
24 - 26	4.9%
27 - 29	4.9%
30 - 32	24.4%
33 - 35	19.5%
36 - 38	22.0%
39 - 41	9.8%
42 and over	9.8%
	100.1%
	N = 41

Table 3.2 Employment Status Of Skips

Status	Percentage of Skips
Employed full-time	90.2%
Employed part-time	2.4%
Unemployed by personal choice	4.9%
Student	2.4%
	99.9%
	N= 41

Table 3.3 Marital Status Of Skips

Status	Percentage of Skips
Single	14.6%
Married, Common Law	80.5%
Divorced	4.9%
	100.0%
	N = 41

Table 3.4 Total Household Income For Skips In 1978

Income	Percentage of Skips
Under $5,000	2.5%
$ 5,000 - $ 9,999	5.0%
$10,000 - $14,999	2.5%
$15,000 - $19,999	15.0%
$20,000 - $24,999	15.0%
$25,000 - $29,999	10.0%
Over $30,000	50.0%
	100.0%
	N = 40

Table 3.5 Estimated Curling Expenses For 1978/79

Estimated Total	Percentage of Skips
Less than $500	5.0%
$ 500 - $ 999	27.5%
$1000 - $1499	17.5%
$1500 - $1999	25.0%
$2000 - $2499	7.5%
More than $2500	17.5%
	100.0%
	N = 40

Table 3.6 Total Years Of Curling Experience For Skips

Years of Experience	Percentage of Skips
4 - 6	2.4%
7 - 9	7.3%
10 - 12	7.3%
13 - 15	7.3%
16 or more	75.6%
	99.9%
	N= 41

Table 3.7 Years Of Top Competitive Curling Experience For Skips

Years of Experience	Percentage of Skips
2	9.8%
3	4.9%
4 - 6	14.6%
7 - 9	22.0%
10 - 12	22.0%
13 - 15	7.3%
16 or more	19.5%
	100.1%
	N = 41

Table 3.8 Skips' Plans For Further Competition

Years	Percentage of Skips
2	8.1%
3	8.1%
4 - 6	32.4%
7 - 9	5.4%
10 - 12	18.9%
13 - 15	18.9%
16 or more	8.1%
	99.9%
	N= 37

With regard to the reasons why they curl competitively, skips were asked to rank order the three most important motives given a list of nine choices and an opportunity to add other alternatives. Forty-two percent of the skips indicated their most important reason for curling was "to pursue excellence in athletic achievement". Twenty-nine percent said their most important reason was "to gain status, prestige, and recognition" (Table 3.9). In examining how often each of the nine motives was cited as one of the three most important reasons for curling competitively, it was observed that three motives were mentioned by sixty percent or more of the skips. These were "to be with friends and associates - 76%", "to gain status, prestige, and recognition - 66%", and "to pursue excellence in athletic achievement - 63%" (Table 3.10).

Skips were also asked to name the five most important variables which contribute to a team's success or failure in curling. Regarding the variable of most importance, only three factors were named by ten percent or more of the skips. These were "ability - 47%", "compatibility - 19%", and "the will to win - 12%". Only five factors were mentioned by twenty percent or more of the skips as actually being in the top five. These were:

(1)	Compatibility	68%
(2)	Ability	65%
(3)	Will to win	40%
(4)	Sweeping judgement and ability	25%
(5)	Physical strength and conditioning	20%

Table 3.9 Skips' Most Important Reason For Being A Competitive Curler

Reason	Percentage of Skips
To pursue excellence in athletic achievement	42.1%
To gain status, prestige, recognition	28.9%
To be with friends and associates	10.5%
To enjoy a stimulating recreational activity	10.5%
To have an outlet for aggression	5.3%
To earn money	2.6%
To improve physical fitness	---
To release surplus energy	---
To avoid facing a general lack of ability in other areas	---
	99.9%
	N= 38

Table 3.10 Skips' Three Most Important Reasons For Being A Competitive Curler

Reason	Percentage of Skips Citing A Reason As One Of The Three Most Important
To be with friends and associates	75.6%
To gain status, prestige, recognition	65.8%
To pursue excellence in athletic achievement	63.4%
To enjoy a stimulating recreational activity	48.8%
To earn money	22.0%
To have an outlet for aggression	9.8%
To improve physical fitness	9.8%
To avoid facing a general lack of ability in other areas	4.9%
To release surplus energy	---

N = 41

FOOTNOTES

1. Men's teams playing in the Superleagues in Calgary and Edmonton were included in the sample as were teams from the Big Ten league in Calgary.

2. Actually, the return envelopes were addressed to the author's research assistant, Mrs. Susan Jenkins. Since the author was a competitive curler known to most of the respondents it was felt that a higher response rate would be achieved if respondents knew that completed questionnaires containing highly personal information were not being sent to the author. This procedure was also intended to increase the likelihood that curlers would be completely honest in replying to the questions. All respondents had been informed that results were strictly confidential and that the author would never personally examine any questionnaires with a knowledge of the respondent's identity.

3. If a team reported a level of performance in a major or a minor event in which more than thirty-two teams were entered, the team performance score for that event was determined by relating the reported level of performance to what equivalent score would have been assigned had the event actually had a thirty-two team field.

   All references to team performance record indirectly refer to the actual team performance score obtained through the application of the point system described. High level performance was represented by a low point score. Low level performance was represented by a high point score. Consequently, one must be careful when examining correlation coefficients in the results so as to not misinterpret the nature of any relationships between variables.

CHAPTER FOUR

RESULTS

A. Team Performance

1. Major Competitions

Nineteen skips reported performance outcomes in two or more major competitions in which at least three team members were present. The mean performance score was 15.53 and the standard deviation was 4.71 (Table 4.1).

2. Minor Competitions

Fifteen skips reported performance outcomes in two or more minor competitions in which at least three team members were present. The mean performance score was 11.04 and the standard deviation was 6.28 (Table 4.2). Thus, it can be seen that the teams had generally better performance records in minor events as compared to major events. This was expected since the teams examined here would tend to be more successful in events having a less competitive field of entrants.

B. Leadership

Each skip was asked to describe the person with whom he curls least well. Ratings were made on sixteen different eight-point scales. Opposite ends of the rating scales were represented by different pairs of bi-polar adjectives. Scoring was done using the numbers from one to eight. The highest possible total score was 128 representing a highly favorable description of a person. The lowest possible total score was 16 representing a highly unfavorable

Table 4.1 Team Performance Records In Major Competitions

Performance Scores	Number of Teams Obtaining Each Score
22.50	2
20.50	1
20.00	2
17.50	2
17.17	2
15.83	1
15.67	1
15.25	1
13.83	1
12.33	1
11.83	1
10.63	1
10.50	1
9.40	1
5.00	1
	N = 19

Mean Performance Score = 15.53

Standard Deviation = 4.71

Table 4.2 Team Performance Records In Minor Competitions

Performance Scores	Number of Teams Obtaining Each Score
24.50	1
20.50	1
16.00	1
15.83	1
14.25	1
12.13	1
11.38	1
9.50	2
7.83	1
7.00	1
6.75	1
4.50	1
3.75	1
2.25	1
	N = 15

Mean Performance Score = 11.04

Standard Deviation = 6.28

description of a person.

The least preferred teammate scores (LPC) are shown in Table 4.3. The mean of the LPC scores was 74.9 and the standard deviation was 18.3.

As a measure of leadership style, the skips' LPC scores were correlated with team performance records in major and minor competitions. The following results were obtained:[1]

(1) LPC Score And Team Performance In Major Competitions $r = -.10$ $n = 18$ $p = .34$

(2) LPC Score And Team Performance In Minor Competitions $r = -.11$ $n = 15$ $p = .35$

In both cases, the correlation coefficient between the LPC scores and team performance records was negative but near zero. Neither of the correlations were statistically significant. These results suggest that team performance may not be related to the skip's leadership style.

Skips were also asked to describe the person with whom they curl best. Ratings were made on the same scales as those used to obtain LPC scores. Scoring procedures also remained the same. The most preferred teammate scores (MPC) are shown in Table 4.4. The mean of the MPC scores was 99.5 and the standard deviation was 12.3. A comparison of the LPC scores and the MPC scores showed that the most preferred teammate is seen in a considerably more favorable way than the least preferred teammate. The difference between the means (24.2) was found to be statistically significant ($t = 6.83$ $n = 40$ $p < .001$).

The MPC scores of the skips were correlated with team

Table 4.3 Skips' Least Preferred Teammate Scores (LPC)

Scores	Number of Skips
120 - 128	0
110 - 119	1
100 - 109	3
90 - 99	4
80 - 89	9
70 - 79	8
60 - 69	6
50 - 59	6
40 - 49	2
30 - 39	1
	N = 40

Mean LPC Score = 74.9

Standard Deviation = 18.3

Table 4.4 Skips' Most Preferred Teammate Scores (MPC)

Scores	Number of Skips
120 - 128	0
110 - 119	9
100 - 109	15
90 - 99	6
80 - 89	9
70 - 79	2
60 - 69	0
50 - 59	0
40 - 49	0
30 - 39	0
	N = 41

Mean MPC Score = 99.5

Standard Deviation = 12.3

performance records in major and minor competitions. The following results were obtained:[2]

(1) MPC Score And Team Performance In Major Competitions r= -.31 n= 19 p= .10

(2) MPC Score And Team Performance In Minor Competitions r= -.43 n= 15 p= .06

In both cases, the correlation coefficient between the MPC scores and team performance records was negative. Although neither correlation was statistically significant, there was an apparent trend. The skips who described their most preferred teammate in a highly favorable manner had the better performance records. The skips who described their most preferred teammate in a less favorable manner tended to have poorer performance records.

A second measure of leadership style for skips was derived by comparing the difference between LPC scores and MPC scores. Technically, the differences examined are those obtained on each of the sixteen rating scales. These differences are squared and then summed overall. This sum of squared differences on individual rating scales yields a score (ASo) which reflects the degree to which opposites (most and least preferred teammates) are seen as similar by the skip. The ASo scores are shown in Table 4.5. The mean ASo score was 156.2 and the standard deviation was 118.5.[3]

As a measure of leadership style, the skips' ASo scores were correlated with team performance in major and minor competitions. The following results were obtained:

(1) ASo Score And Team Performance In Major Competitions r= .00 n= 18 p= .50

(2) ASo Score And Team Performance In Minor Competitions r= +.22 n= 15 p= .21

Table 4.5 Skips' Assumed Similarity Between Opposites (ASo Scores)

Scores	Number of Skips
500 - 549	1
450 - 499	1
400 - 449	0
350 - 399	1
300 - 349	1
250 - 299	1
200 - 249	4
150 - 199	4
100 - 149	11
50 - 99	8
1 - 49	7
	N = 39

Mean ASo Score = 156.2

Standard Deviation = 118.5

The correlation between ASo scores and team performance in major competitions was zero. In terms of team performance in major competitions skips who assumed there was a high degree of similarity between their most and least preferred teammates (relationship-oriented style) did not differ from skips who tended to see considerable differences between opposites (task-oriented style). The correlation between ASo scores and team performance in minor competitions was not statistically significant; however, the positive correlation of +.22 showed a trend for relationship-oriented skips (having low ASo scores reflecting a high degree of assumed similarity between opposites) to have better performance records than task-oriented skips (having high ASo scores reflecting a low degree of assumed similarity between opposites).

Correlations between LPC, MPC, and ASo scores are presented at the end of this chapter.[4]

C. Group Cohesion

Group cohesion is believed to be an important determinant of team performance by skips involved in the present study. Cohesion or compatibility has been referred to as the ability of team members to get along with each other or maintain harmonious relations.

Each skip rated the degree to which he perceived cohesion to exist on his team. On five-point rating scales ranging from excellent to poor, each skip rated his team's cohesion level in reference to four different situational contexts - while the team was winning both on and off the ice and while the team was losing both on and off the ice.

Winning and losing appear to have a very strong impact on the degree to which a skip perceives his team members as getting along with each other. The skips' ratings of cohesion in each of the four situational contexts described above are shown in Table 4.6.

While on the ice and winning, sixty-five percent of the skips rated their teams' level of cohesiveness as excellent whereas only seventeen percent of the skips rated their teams' level of cohesiveness as excellent when the team was supposedly on the ice and losing. A similar trend is found when off ice ratings of team cohesiveness are examined. While off the ice and winning, fifty-six percent of the skips rated their teams' level of cohesiveness as excellent whereas only twenty-four percent of the skips gave this rating when the team was supposedly off the ice and losing. It is interesting to note that the skips rated team cohesiveness lowest in the off-ice condition while losing. In this situational context, fifteen percent of the skips rated the cohesiveness as either fair or poor. These categories, fair and poor, represent the lowest of the five categories on the rating scale used and they were only used by skips in reference to cohesiveness under one other situational context - on the ice while losing. In this case, seventeen percent of the skips rated their teams' cohesiveness as fair.

These data suggest that the degree of social cohesiveness on a curling team as rated by the skip appears to fluctuate considerably as team performance varies. When these four indicators of cohesion were correlated with actual team performance records in major and minor events the following results were obtained:

Table 4.6 Skips' Ratings Of The Degree To Which Teammates Are Seen As Getting Along Together In Four Situational Contexts

RATING	SITUATIONAL CONTEXT			
	ON ICE		OFF ICE	
	While Winning	While Losing	While Winning	While Losing
Excellent	63.4%	17.1%	56.1%	24.4%
Very Good	29.3%	36.6%	29.3%	36.6%
Good	7.3%	29.3%	14.6%	24.4%
Fair	---	17.1%	---	9.8%
Poor	---	---	---	4.9%
	100.0%	100.1%	100.0%	100.1%
	N = 41	N = 41	N = 41	N = 41

(1) Cohesion Level While Winning On The Ice r= -.48 n= 19 p= .02
And Team Performance In Major Competitions

(2) Cohesion Level While Losing On The Ice r= -.23 n= 19 p= .17
And Team Performance In Major Competitions

(3) Cohesion Level While Winning Off The Ice r= -.27 n= 19 p= .14
And Team Performance In Major Competitions

(4) Cohesion Level While Losing Off The Ice r= -.03 n= 19 p= .46
And Team Performance In Major Competitions

(5) Cohesion Level While Winning On The Ice r= -.35 n= 15 p= .10
And Team Performance In Minor Competitions

(6) Cohesion Level While Losing On The Ice r= -.27 n= 15 p= .16
And Team Performance In Minor Competitions

(7) Cohesion Level While Winning Off The Ice r= -.10 n= 15 p= .36
And Team Performance In Minor Competitions

(8) Cohesion Level While Losing Off The Ice r= -.11 n= 15 p= .34
And Team Performance In Minor Competitions

In every case shown above, the correlation between the team's cohesion level as rated by the skip and team performance (in both major and minor events) was negative. Since the point system used for scoring team performance gave high scores in the case of poor performance and low scores in the case of good performance, one must be careful in interpreting the correlations shown above. Although the statistical value is negative, it actually represents a positive correlation between cohesion and team performance. Teams with better performance records tended to be seen as more cohesive than teams with poorer performance records. However, only one of the eight correlations between cohesion and team performance was statistically significant. The group cohesion ratings provided by skips in reference to the situational context of teams being on the ice and winning correlated significantly with team performance. Teams seen as getting

along extremely well when winning on the ice tended to have better performance records than teams who were seen as getting along very good or good.

One other indicator of group cohesion used in the present study involved having skips indicate how many of their teammates were considered as personal friends. Forty-four percent of the forty-one skips considered all three of their teammates as personal friends. Seventeen percent considered two teammates as personal friends and twenty-nine percent considered only one teammate as a personal friend. Ten percent of the skips felt that none of their teammates were personal friends. These results were somewhat surprising considering the social nature of the sport of curling and the fact that frequently friendship seems to be the basis for the formation of competitive teams (Table 4.7).

When this measure of cohesion was correlated with team performance the following results were obtained:

(1) Number Of Teammates Considered As Personal Friends By The Skip And Team Performance In Major Competitions — r= +.16 n= 19 p=.25

(2) Number Of Teammates Considered As Personal Friends By The Skip And Team Performance In Minor Competitions — r= .00 n= 15 p=.50

Neither of the correlations shown above are statistically significant. There appears to be no relationship between a team's performance and how many teammates are considered as personal friends by the skip. However, it is interesting to note that the positive correlation of +.16 between these two variables suggests a slight trend for teams with better performance records to have skips that do not consider as as many teammates as personal friends as do skips having teams with

Table 4.7 Number Of Teammates Considered By The Skip To Be Personal Friends

Number of Teammates Considered As Personal Friends	Percentage of Skips
Three	43.9%
Two	17.1%
One	29.3%
None	9.8%
	100.1%
	N = 41

poorer performance records.[5]

D. Conflicting Life Demands

1. Conflict Between Work And Curling

Ninety percent of the forty-one skips involved in the present study were employed on a full-time basis at the time of the survey. The others (10%) were working part-time, unemployed by personal choice or students.

Each skip who was employed on a full-time basis rated the extent to which he saw his employer (immediate superior) as supportive or non-supportive of his curling when it required that he be away from work. Ratings were made on a five-point scale that ranged from very supportive to very non-supportive.

Twenty percent of the employers were rated as very supportive and fifty-six percent were rated as supportive. Sixteen percent of the employers were rated as neither supportive nor non-supportive while eight percent were rated as non-supportive. No employers were rated by skips as very non-supportive. These data suggest that most of the skips have worked out an arrangement with their employers regarding work absence for curling purposes (Table 4.8).

Each skip rated the degree to which he felt it was easy or difficult to be absent from work in order to compete. Ratings were made on a six-point scale ranging from extremely easy to extremely difficult. Results are presented in Table 4.9.

There was considerable variation in responses to this question as eighteen percent of the skips said it was extremely easy to be away from work to curl and the same percentage said it was very easy.

Table 4.8 Degree Of Support Skips Receive From Employers In Regard To Curling That Requires Work Absence

Rating	Percentage of Skips
Very Supportive	20.0%
Supportive	56.0%
Neither Supportive Nor Non-supportive	16.0%
Non-supportive	8.0%
Very Non-supportive	---
	100.0%
	N = 25

Table 4.9 Degree Of Ease Or Difficulty Skips Have In Being Absent From Work To Compete

Rating	Percentage of Skips
Extremely Easy	18.4%
Very Easy	18.4%
Somewhat Easy	31.6%
Somewhat Difficult	23.7%
Very Difficult	2.6%
Extremely Difficult	5.3%
	100.0%
	N = 38

Thirty-two percent said it was somewhat easy while twenty-four percent said it was somewhat difficult to be away. The other eight percent of the skips said it was either very difficult or extremely difficult to be away from work to curl.

Having been asked to think about the degree of employer support received and the ease or difficulty experienced in being absent from work to curl, each skip rated the degree to which his curling performance on the ice was affected negatively by conflict between work demands and curling demands. Ratings were made on a four-point scale ranging from not at all to to a great extent.

Twenty-nine percent of the skips reported no negative impact at all on curling performance considering any conflict between work demands and curling demands. Fifty percent reported only some degree of negative impact on curling performance. Thirteen percent of the skips felt their curling was being affected negatively to a considerable extent and eight percent felt this was true to a great extent (Table 4.10).

In general, three-fourths of the skips felt they had supportive employers; two-thirds of the skips found it relatively easy to be away from work to curl; almost four-fifths felt work-curling conflict only affected their curling negatively to some extent or not at all. These indicators of conflict between work demands and curling demands were correlated with team performance in major and minor competitive events. The following results were obtained:[6]

Table 4.10 Degree To Which Work-Curling Conflict Is Seen By Skips As Affecting Their Curling Performance Negatively

Rating	Percentage of Skips
To A Great Extent	7.9%
To A Considerable Extent	13.2%
To Some Extent	50.0%
Not At All	28.9%
	100.0%
	N = 38

Table 4.11 Skip's Response To Ultimatim From Employer To Either Quit Curling Or Resign

Response	Percentage of Skips
Resign From Job	34.4%
Quit Curling	12.5%
Reduce Amount Of Curling In An Effort To Reduce The Degree Of Conflict	53.1%
	100.0%
	N = 32

(1)	Degree Of Employer Support And Team Performance In Major Competitions	r= +.05	n= 10	p= .44
(2)	Ease Of Work Absence And Team Performance In Major Competitions	r= -.15	n= 18	p= .28
(3)	Degree Of Negative Impact Work Demands Have On Curling Performance And Team Performance In Major Competitions	r= +.05	n= 18	p= .41
(4)	Degree Of Employer Support And Team Performance In Minor Competitions	r= -.16	n= 8	p= .35
(5)	Ease Of Work Absence And Team Performance In Minor Competitions	r= -.32	n= 14	p= .13
(6)	Degree Of Negative Impact Work Demands Have On Curling Performance And Team Performance In Minor Competitions	r= -.09	n= 14	p= .38

None of the correlations reported above are statistically significant. None of the indicators of work-curling conflict showed any relationship to team performance in either major or minor competitive events. It would seem that the degree of success or failure attained by a curling team has very little to do with the degree of conflict there is for a team's skip between his work demands and curling demands.

Each skip was also asked what he would do if his employer told him to resign or quit curling. Only twelve percent of the skips indicated they would quit curling in such a situation while thirty-four percent said they would be prepared to resign in order to continue curling on a competitive basis. As well, fifty-three percent of the skips chose a compromising alternative specified in the closed-ended question indicating they would attempt to reduce the amount of curling in an effort to reduce the conflict between work demands and curling demands (Table 4.11).

2. Conflict Between Marriage (Family) And Curling

Each skip who was married or living common law rated the extent to which he saw his spouse as supportive or non-supportive of his curling. Ratings were made on a five-point scale that ranged from very supportive to very non-supportive.

Fifty-two percent of the thirty-three skips rated their spouse as very supportive and thirty-six percent said their spouse was supportive. Twelve percent of the spouses were rated as neither supportive nor non-supportive and none were rated as non-supportive or very non-supportive. It would seem that most skips have worked out problems which may have existed between their wives and the demands of curling (Table 4.12). Skips having non-supportive spouses may either not be competing at this level with any notable degree of success or they may have chosen to pursue the sport on more of a recreational basis.

Each married skip also rated the ease or difficulty experienced in being away from home (although not necessarily out of town) to compete. Ratings were made on a six-point scale that ranged from extremely easy to extremely difficult.

None of the skips suggested it was very difficult or extremely difficult to be away from home to curl. Twenty-four percent said it was somewhat difficult and eighteen percent said it was somewhat easy. Twenty-seven percent of the skips found it very easy to be away from home to curl and an additional thirty percent said it was extremely easy (Table 4.13).

Skips were asked if their curling performance on the ice was

Table 4.12 Degree Of Support Skips Receive From Their Wives In Regard To Curling

Rating	Percentage of Skips
Very Supportive	51.5%
Supportive	36.4%
Neither Supportive Nor Non-supportive	12.1%
Non-suppportive	---
Very Non-supportive	---
	100.0%
	N = 33

Table 4.13 Degree Of Ease Or Difficulty Skips Have In Being Away From Home To Compete

Rating	Percentage of Skips
Extremely Easy	30.3%
Very Easy	27.3%
Somewhat Easy	18.2%
Somewhat Difficult	24.2%
Very Difficult	---
Extremely Difficult	---
	100.0%
	N = 33

affected negatively by conflict between marriage (family) demands and curling demands. Ratings were made on a four-point scale which ranged from not at all to to a great extent.

Fifty-four percent of the skips reported no negative impact at all on curling performance considering any conflict between home demands and curling demands. Thirty-six percent reported only some degree of negative impact on curling performance. Six percent of the skips felt their curling was being affected negatively to a considerable extent and three percent felt this was true to a great extent (Table 4.14).

In general, nine-tenths of the skips felt they had supportive wives; two-thirds of the skips found it relatively easy to be away from home to curl; nine-tenths felt marriage (family) - curling conflict only affected their curling negatively to some extent or not at all.

These indicators of conflict between marriage (family) demands and curling demands were correlated with team performance in major and minor competitive events. The following results were obtained:[7]

(1)	Degree Of Wife Support And Team Performance In Major Competitions	r= -.54	n= 16	p= .02
(2)	Ease Of Home Absence And Team Performance In Major Competitions	r= -.42	n= 16	p= .05
(3)	Degree Of Negative Impact Marriage (Family) Demands Have On Curling Performance And Team Performance In Major Competitions	r= -.17	n= 16	p= .26
(4)	Degree Of Wife Support And Team Performance In Minor Competitions	r= -.06	n= 13	p= .42
(5)	Ease Of Home Absence And Team Performance In Minor Competitions	r= -.02	n= 13	p= .47

Table 4.14 Degree To Which Marital (Family) - Curling Conflict Is Seen By Skips As Affecting Their Curling Performance Negatively

Rating	Percentage of Skips
To A Great Extent	3.0%
To A Considerable Extent	6.1%
To Some Extent	36.4%
Not At All	54.5%
	100.0%
	N = 33

(6) Degree Of Negative Impact Marriage (Family) Demands Have On Curling Performance And Team Performance In Minor Competitions r= -.08 n= 13 p= .40

In the case of correlations shown above regarding any relationship between the marriage (family) - curling conflict and team performance in minor competitive events, none of the correlations obtained were statistically significant. It would seem that the degree of success or failure attained by a curling team in minor competitive events has very little to do with the degree of conflict that exists for the team's skip between his home demands and curling demands.

However, significant correlations were obtained when performance in major competitive events was examined in relation to the skip's degree of wife support for his curling and the ease with which the skip was able to be away from home to curl. More specifically, a significant negative correlation of -.54 was found between the degree of wife support skips saw themselves as receiving in relation to curling and these skips' team performance records in major events. Skips with highly supportive wives were leading their teams to the achievement of relatively better performance in major events than were skips whose wives were seen as less supportive. This correlation is felt to be extremely high considering the high degree of homogeneity in skips' ratings of wife support discussed earlier. Another significant correlation was found between the ease or difficulty skips associated with home absence in order to curl and team performance in major competitions (r= -.42). Skips who experienced relative ease in being away from home to participate in curling competitions were

leading their teams to the achievement of relatively better performance records than were skips who experienced relative difficulty in being away from home to compete. Although getting away from home to compete did not appear to present significant problems for any of the skips, those who had an easier time of it seemed to record higher levels of team performance.

Skips were asked a final question regarding marriage and curling. Each was asked what he would do if his spouse told him to quit curling or separate. Nine percent of the skips indicated they would choose marital separation rather than give up competitive curling while twenty-two percent said they would put the broom in the closet and retire rather than separate. The other two-thirds (69%) chose the compromising alternative specified in the question which was to reduce the amount of curling in an effort to reduce the marriage - curling conflict (Table 4.15).

3. Conflict Between Non-work, Non-marital Factors And Curling

After each skip assessed the degree to which there was marriate (family) - curling conflict and work - curling conflict, each indicated the degree to which his curling performance on the ice was affected negatively by conflict between the demands of non-home, non-work related concerns and curling. These "other demands" upon the skip's time, money, and energy were essentially defined by referring to what they were not dependent upon, namely marriage and work. Consequently, each skip placed his own frame of reference upon the question which asked for a rating to be made on a four-point scale ranging from not at all to to a great extent.

Thirty-nine percent of the skips reported that other external

Table 4.15 Skip's Response To Ultimatim From Spouse To Either Quit Curling Or Separate

Response	Percentage of Skips
Separate From Spouse	9.4%
Quit Curling	21.9%
Reduce Amount Of Curling In An Effort To Reduce The Degree Of Conflict	68.8%
	100.1%
	N = 32

Table 4.16 Degree To Which External Demands (Non-work, Non-marital) Conflict With Curling Such That Skips See Curling Performance Affected Negatively

Rating	Percentage of Skips
To A Great Extent	2.4%
To A Considerable Extent	12.2%
To Some Extent	46.3%
Not At All	39.0%
	99.9%
	N = 41

demands were having no negative impact upon their curling performance in any way. Forty-six percent suggested these demands were affecting their curling performance negatively to some extent. Fifteen percent of the skips said there was either a considerable extent of conflict or a great deal of conflict between external demands and curling to the point where performance was being affected negatively (Table 4.16).

This indicator of conflict between other external demands and curling demands was correlated with team performance in major and minor competitive events. The following results were obtained:[8]

(1) Degree Of Negative Impact External Demands Have On Curling Performance And Team Performance In Major Competitions — r= -.27 n= 19 p= .13

(2) Degree Of Negative Impact External Demands Have On Curling Performance And Team Performance In Minor Competitions — r= -.06 n= 15 p= .41

In the case of team performance in minor events, the correlation between a skip's external demands - curling demands conflict and team performance was near zero suggesting the two variables are unrelated. However, in the case of team performance in major events the correlation, although not statistically significant, suggested a slight trend for skips having minimal external demands - curling demands conflict to also have better team performance records. The degree of outside interference (non-home and non-work related) a skip must cope with during a curling season may be related to team performance but it must be stressed that the correlation obtained in the present study was not a significant one from a statistical standpoint.

FOOTNOTES

1. Although both values of "r" are negative they are correctly interpreted as showing positive correlation between LPC scores and team performance scores. This is a result of good team performance as having been represented by low scores and poor team performance as having been represented by high scores.

2. As noted in the footnote above the obtained values of "r" cannot be interpreted literally. The negative correlations shown actually show positive association between MPC scores and team performance scores.

3. The possible range of ASo scores is from 0 - 784.

4. The correlations obtained in the present study between all combinations of LPC, MPC, and ASo scores are presented below:

   a.) LPC and MPC r= -.04 n= 40 p= .40

   b.) LPC and ASo r= -.67 n= 39 $p < .001$

   c.) MPC and ASo r= +.14 n= 39 p= .19

   It is noteworthy that this pattern of correlations is similar to that found in previous research by Fiedler (1967).

5. As noted in footnotes #1 and #2 above, this correlation cannot be interpreted literally because of the way team performance scores have been derived. The positive correlation shown actually shows negative association between the number of teammates considered as personal friends by the skip and team performance in major events.

6. The positive or negative sign of "r" can be interpreted literally for correlations between degree of employer support and team performance.

   The negative correlations obtained between skips' ratings of ease of work absence and team performance both suggest that skips who have an easier time getting away from work to compete are also the ones having better performance records.

7. The negative correlations obtained between degree of wife support and team performance must be interpreted to mean that the greater the wife support as seen by the skip the better the team performance record. The negative correlations actually indicate positive association between the variables.

   The negative correlations obtained between skips' ratings of ease of home absence and team performance suggest that skips who have an easier time getting away from home to compete are also the ones having better performance records. This is more applicable in the case of major competitions as opposed to minor competitions.

8. The negative correlations obtained here can be interpreted literally. A skip who saw himself as having a high degree of conflict between external demands and curling demands was likely to have a poorer performance record in competitive events.

CHAPTER FIVE

DISCUSSION

A. Leadership And Team Performance

It has been argued that a competitive curling team is a small, interacting group which presents the skip with a situationally favorable leadership context in which to exert his influence. The group task is structured. The leader's power position is strong. Leader-member relations are usually positive.

Fiedler's "Contingency Model" of leadership effectiveness suggests that group performance varies with leader effectiveness. Leader effectiveness is thought to be contingent upon the situational context facing the leader and his particular leadership style. In the situationally favorable leadership context of a competitive curling team, task-oriented leaders as opposed to relationship-oriented leaders were expected to have teams with better team performance in major and minor competitions.

In the present study, leadership style was measured in two ways as a means of distinguishing between the task orientation emphasized by some skips and the interpersonal relationship orientation emphasized by others. Skips who tended to have a task orientation did not have better team performance records than skips who tended to have an interpersonal orientation. The correlational analysis showed no statistically significant correlations between leadership style (as indicated by ASo and LPC scores) and team performance. Several factors may have contributed to these particular

findings and need to be considered in further research.

First, in the present study the measure of team performance in major competitions was the averaged performance of a team over several events. Many of the teams involved had only participated in a limited number of major events. Consequently, a team's performance score for major competitions was often based upon how a team had done in as few as two events. A maximum of nineteen teams were available for analysis on this basis. It would be desirable to conduct further research on competitive teams which remain intact for a number of seasons to enable a more reliable measure of team performance to be established. Teams might be selected from a number of different provinces as a means of obtaining a more homogeneous sample of skilled and experienced curlers. These considerations apply in the case of minor competitions as well. Other measures of team performance could also be considered such as a team's win-loss record, the number of consecutive wins, the number of consecutive losses, etc. It would be advantageous to utilize measures that could be monitored closely over the course of a season.

Second, the present study did not attempt to account for variation in the situational context facing the skips on a team-by-team basis. It was suggested that competitive curling teams could be examined as a homogeneous pool of group situations all presenting essentially the same conditions for the skips to deal with. However, there may be important variation from team to team with respect to the power position of the skip and the favorableness of the leader-member relations which in turn would have implications for the most

effective leadership style. There may even be important differences in the degree to which teams see the actual task of curling as structured. Differing situational contexts may exist on different teams for different skips. If these were identified, differing leadership styles might be required for maximal team performance in accordance with the different situational contexts.[1]

Third as mentioned in previous discussion, it has been argued that a competitive curling team presents its skip with a highly favorable situation in which the skip as leader can exert influence. In other less favorable situations described by Fiedler (1967) leadership style could well take on much greater importance in determining the group's level of task success but in such a favorable situation, the actual leadership style of the skip may not be a crucial determinant or correlate of team performance. This may be especially true when one considers, that in curling, skips recruit their own teams and in doing so may select teammates who will perform well in light of the skip's particular leadership style. If a skip is able to create a team that maximizes the effectiveness of his individual style then the actual specific leadership style may not be a determinant of group performance. If one were interested in predicting team performance it may be important to know how effectively each skip has matched his leadership style with his teammates.

A fourth concern not addressed in the present study but perhaps is of considerable importance is related to Fiedler's theory of leadership. Leadership style is conceptualized as a personality trait or

an underlying need structure that motivates an individual and gives rise to certain emphases in leadership behavior. It may be useful to think of leadership style as more dynamic and changing in accordance with certain parameters of a social situation. Leader effectiveness may be more a function of how an individual constructs his behavior in a group situation and modifies it accordingly as the situation changes. Team performance might well be a function of leadership style conceptualized in this way. Since leadership is a matter of how an individual exerts influence in a situation it might be important for future studies of the possible relationship between team performance and leadership style to focus more specifically on what leaders (skips) are actually doing to exert influence over group members (teammates) that makes some groups (teams) more successful than others. In addition, leadership is exhibited to some degree by each team member. The approach taken by each team member may need to be examined rather than focusing exclusively on the skip.

B. Group Cohesion And Team Performance

The skips of competitive curling teams rated the degree to which they saw their teammates getting along in regard to four different situational contexts - on the ice while winning and losing; off the ice while winning and losing.

Rather than being a rather stable and unchanging characteristic of teams, the data suggest that group cohesion as judged by the skip varies considerably. Cohesion is dynamic and situationally dependent. Skips' ratings of team cohesion when winning, both on and off the ice,

were very much higher than cohesion ratings when the team was losing. Cohesiveness may be a function of team performance as previously suggested by Carron and Ball (1977). Further investigation of the importance of these cohesion fluctuations is needed. Are teams that show considerable fluctuation in cohesion as a function of the situational context (winning or losing) more or less successful than teams that show a more stable, unchanging pattern of cohesion?

When the two "on ice" measures of group cohesion were correlated with team performance only the rating of cohesion while the team was winning was statistically significant. Although virtually all teams were seen by skips as getting along quite well while winning, those teams which were seen as getting along even better than the others were the more successful teams.[2] These findings are partially consistent with studies reported by both Martens and Peterson (1971) and Carron and Ball (1977). As found in the latter study, the correlation found was between team performance and a measure of cohesion taken at the end of the season. Consequently, there is difficulty in knowing whether cohesion affects performance of teams or vice versa. It will be important in further research that measures of cohesion levels be based upon behavioral observation. In this way it would be possible to verify if teams that are more successful than others actually demonstrate different levels of cohesion in their verbal and non-verbal interaction while on the ice.

Another interesting finding was related to the two "off ice" measures of group cohesion. Neither of these measures correlated significantly with team performance. The degree to which teammates

were getting along together away from the playing surface (in the locker room or curling club lounge) did not seem to make a difference as far as team performance was concerned. If group cohesion is a determinant of team performance it may be that it is the cohesion displayed by the team while playing that is more important as compared to the cohesion displayed in a social setting following competition. As one highly successful curler mentioned to the author while discussing the present study in a curling club lounge, "the game is played out there (as he pointed to the ice area). That is where games are won and lost, not up here in the lounge". He implied that cohesion, especially off the ice, has little or no relation to team performance.

In summary, the findings of the present study are inconclusive. The supposed relationship between cohesion and team performance seems to be partly a function of the way in which the construct is measured. There may be a relationship between the two variables but the degree and nature of that relationship remains unknown. Further research is needed in which teams are studied for extended periods of time. It would be useful to employ multiple indicies of cohesiveness in research conducted over a period of two to three years in which data was collected quarterly. In this way, it may be possible to assess whether or not the possible cohesiveness-performance relationship is unidirectional or interactive and circular as Martens and Peterson (1971) have suggested. It might also be interesting to consider studying cohesiveness in relation to team performance through the use of structured observation as a means of data collection rather than continuously relying upon self-report

measures.

Another issue that warrants consideration concerns the meaning of group cohesion as it is used in the literature. Group cohesion, as referred to in the present study and in references cited, is taken to mean social group cohesion. Consequently, most research has been related to the idea of measuring closeness among teammates, teamwork, and the attraction of the members to the group. Findings tend to be inconsistent and broad generalizations cannot be firmly supported. Part of the problem may be due to a lack of clarity as to the actual meaning of group cohesion. Smith (1969), in reviewing Mikalachki's unpublished doctoral dissertation, suggests that it may be useful to differentiate between task cohesion and social cohesion.

The performance of a group is thought to be partly a function of its cohesion. If the group is striving to achieve task-oriented goals then task cohesion may be important. If the group is striving to achieve socially-oriented goals then social cohesion may be important. In the case of competitive sports teams generally, and curling teams specifically, the common goals are task-oriented. The degree of consensus present as to what the goals actually are defined as, would reflect the degree of task cohesion. Athletic team performance may correlate highly with the degree of task cohesion. It would be interesting to see further research on the relationship between team performance and group cohesion utilizing this distinction. Lenk (1977) has documented cases where rowing teams have performed at very high levels despite having increasingly low levels of social cohesion.

However, the members of those rowing teams may have strongly believed in the common goals sought by the team and thus were high in task cohesion, a contributing factor in their international success.

C. Conflicting Life Demands And Team Performance

It has been suggested earlier that winning in top level competitive curling may depend upon an individual's general readiness to focus all attention and ability on the sport at the appropriate times. The presence of conflicting life demands such as work, marriage (family) or other external demands upon an individual's time, money, and energy may interfere substantially with performance.

As amateur athletes, virtually all competitive curlers rely upon work as a means of financial support. Consequently, sport demands and work demands must be accommodated. It was felt that the more successful a skip's accommodation of these potentially conflicting demands the more successful his team would be.

The degree to which skips of competitive curling teams perceive themselves as experiencing work-sport conflict was examined. Most skips had seemingly created situations where this conflict was minimal. Nevertheless, it was somewhat surprising that the results showed no significant correlations between the indicators of work-curling conflict and team performance. How might these findings be accounted for?

It is important to recognize that the skips in this study had already spent an average of seven and one-half years gaining competitive experience prior to the season during which this study was

conducted. In addition, these skips reported plans to continue participation at the same top competitive level for an average of another eight to nine years. These skips seemed to have carved out at least two different careers for themselves - one related to work and one related to sport. Having entered competitive curling some time ago, these skips already may have been forced to resolve the work-sport conflict. Although the findings here suggest the concerns about employer support and ease of work absence are not related to the quality of a team's performance, these considerations may operate as "informal entrance requirements" into the competitive field of curling. Those lacking a degree of employer support and an ease of being absent from work to curl are possibly screened out of top level competition or have been performing so poorly that they were not sampled in the present study.

It was interesting to note the marked degree of homogeneity in skips' replies to the three questions about marriage (family) related concerns and curling. Eighty-eight percent of the skips rated their spouses as either very supportive or supportive. The other twelve percent of the skips said their spouses were neither supportive nor non-supportive while no one said their spouse was non-supportive. Clearly, most skips of competitive curling teams have the support of their wives. It may be that curlers who lack this support are no longer married and still curling or still married but not curling competitively with any degree of success if at all and thus are not included in the present study.

Homogeneity is also evident in skips' replies to the question of ease or difficulty associated with home absence. Seventy-four percent of the skips reported a degree of ease rather than difficulty in this matter. But despite the presence of only modest variation in wife support reported by skips and the ease of home absence, statistically significant positive correlations were found between these variables and team performance. Unfortunately, these ratings were made by skips after the competitive season was completed and the team performance record was therefore a matter of history. On the basis of the data available one cannot establish whether team performance was determined to a degree by wife support a skip received or the ease with which he was able to be away from home. However, it is possible that the degree of wife support a skip receives does affect his self-confidence and the general stress level he sees himself being under. Perhaps a more supportive spouse does not resent the time a skip spends curling nor does she resent the money being spent in this way. In such a situation, a skip may feel more self-assured and secure thus performing more effectively and producing a more distinguished record of accomplishment.

More insight into the relative importance of employer support and wife support as factors potentially influencing team performance may be gained by comparing skips' responses to the ultimatim questions (quit curling or resign in the case of work and quit curling or separate in the case of marriage). Thirty-six percent of the skips were prepared to resign from their jobs if given the ultimatim while only eight percent of the skips indicated that they would be

prepared to dissolve the marriage partnership. This comparison served to show that the marital-familial commitment is stronger for more skips than the work commitment. If this is so it is not surprising that team performance correlated with marital-familial concerns as opposed to work related or employer related concerns.

Most skips had seemingly resolved the work-sport conflict or were prepared to do so through resignation if pressed. They had also pretty much resolved the marriage (family)-sport conflict. The same was found to be true for general concerns in other areas as well. External demands were seen by eighty-five percent of the skips as affecting their curling performance negatively to only some extent or not at all. Skips of competitive curling teams seem to have sought to minimize this potential conflict. Again it seems as though skips may actively seek arrangements making it possible to curl competitively. Having curled competitively for a considerable time period they have had an opportunity to work out potential conflict in this area insofar as curling is concerned just as they have done with regard to work and marriage (family) concerns.

Finally, research is needed to assess the cause-effect nature of the correlations found in this study regarding wife support and team performance. It may be that these variables interact together in a dynamic, circular manner. A losing skip is faced with a non-supportive wife. A skip who lives in this environment may fail to perform effectively. A continuing record of losses in turn leads to increased lack of support from the spouse. On the other hand, a winning skip is likely faced with a more supportive spouse given

the material and emotional benefits of success. Longer term wife support may develop and lead to long term success in competition partly as a result of the skip's security in knowing that there is approval at home for what he seeks to achieve in sport. Although evidence for this position cannot be offered at this time, the folklore of stories told in curling club lounges are rich in tales of disappointing curling careers associated with marital strife and curling careers of considerable achievement associated with marital harmony and stability. There is also a need to determine exactly what it is that skips feel their spouses do in demonstrating a certain degree of support or non-support.

D. Some Limitations Of The Present Study

The present study has focused exclusively on top competitive curling teams. A purposive sample of teams was selected as a means of securing a relatively homogeneous pool of teams with respect to ability and experience of players. Consequently, the generalizability of the present study's findings is necessarily restricted in light of the sampling technique employed. At a different level of competition, such as recreational club curling, the factors which determine a team's performance level may be entirely different than those determining a competitive team's performance level.

There is a need to conduct a comparable study of recreational club curling teams to provide a basis for comparison against which data from the present study may be more fully understood.

Finally, it is important to stress once more that the measure

of team performance used in the present study reflected how teams had performed in as few as two competitions. Further research is needed in which a more stable measure of team performance is employed. In addition, the subjective evaluation of the team's performance record needs to be examined. A team that perceives itself as having a very good level of achievement, despite possibly having an objectively poor record, may differ in substantively important ways from a team with the same objective performance record that views itself as a failure. The way an athlete views his performance may be more important to consider than objective performance measures as a means of coming to understand what factors are actually correlated with achievement in sport.

FOOTNOTES

1. Fiedler (1979) suggests that leaders can attempt to alter the situational context they are faced with as a means of improving their effectiveness.

2. There is an interesting resemblance between trends in the data with regard to cohesiveness and its relationship to performance and the relationship found between wife support and team performance. In rating both team cohesiveness and wife support, the skips gave high ratings generally. Virtually all the skips had some wife support and virtually all the skips had very cohesive teams while winning. Nevertheless, those skips who had very supportive wives and extremely cohesive teams tended to have better performance records than did those skips who simply had supportive wives and cohesive teams. Some skips seemed to see themselves as having more of these characteristics than other skips and it was this former group of skips who were just that much more successful.

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APPENDIX 1

October 26, 1978

Dear Sir:

I am conducting a unique research study with regard to the sport of curling. The study will provide the basis for a thesis which I am writing as partial fulfillment of the University of Alberta's requirements in the Master of Arts Degree programme. Three important questions are asked in the present study. First, what are the characteristics of individuals who participate in competitive events such as cash bonspiels, carspiels, and Consol Playdowns? Second, what do curlers consider the essential ingredients of a successful team to be? Third, how do more successful teams differ from less successful teams?

Your team has been chosen to be a part of this research because it is one of the best teams in Alberta. The best sixty-four teams in Alberta have been selected to be a part of the study. Since a relatively small number of teams are being contacted, your contribution is of vital importance. (Please note that if you are not skipping your own team or are playing a position other than skip I would still like you to complete the attached form.)

One type of information being collected in this study will be obtained by a questionnaire mailed to each member of every participating team. The questionnaire will ask for information about the player's curling history, his goals and aspirations in curling, his thoughts about the team of which he is currently a member, and his thoughts about what he believes the keys to successful curling teams to be.

Another type of information being collected in this study will be obtained by examining each team's performance in competitive events entered during the latter part of November, December and the 1979 Consol Playdowns. This information will be obtained by recording bonspiel results from these events.

I am concerned about the fact that not only am I a researcher but I am also a fellow competitor (playing second for Dan Fink in Edmonton). Since curlers are being asked to reveal personal information about their teams and their thoughts about what it takes to be successful in curling, I have developed a procedure to guarantee complete confidentiality in regards to all questionnaire responses. Questionnaires will be marked by secret, coded identification numbers. Names will not appear on the questionnaires. Further, the only person who will ever see completed questionnaires and thus knowing which belongs to a particular individual will be my research assistant. Under no circumstances will any results of any questionnaires be discussed with regard to a particular individual. All analysis of the information collected will be completely impersonalized. Questionnaire responses will be matched with each team's

performance in certain competitive events. All information will be entered into a computer file by my research assistant. Finally, I want to give you my most sincere assurance that I will never personally examine any questionnaires returned in this study. As well, my assistant is someone who is highly trustworthy and also is not associated with curling in any way.

A questionnaire will be mailed to each member of every team which gives me permission to contact them. Questionnaires would be received in November, 1978 and would require immediate attention. The questionnaire is comprehensive because a considerable amount of information is requested. Consequently, co-operation on your behalf would require about thirty minutes to answer all questions thoughtfully and completely.

This research study is unique and represents a serious attempt to discover answers to complex questions in assessing how and to what extent more successful teams differ from or compare with less successful teams. When all information has been collected and analyzed, I would be most willing to send you a complete summary of the findings. I think every curler will find the results both interesting and informative. However, at this stage I am not in any better position than yourself to predict how the results will turn out.

When you have discussed this request for co-operation with your team, please return the attached form in the self-addressed, stamped envelope. If you decide to be a part of this study I will need all of the information requested on the form.

I am looking forward to receiving your reply in the very near future and would appreciate a "YES" reply very much. If you have any further questions or suggestions please contact me at home (Telephone 452-9039) or at work (Telephone 462-5667).

Best of luck and good curling.

Yours truly,

Millard Evans

PERMISSION FORM

Please fill out the form and return in the self-addressed, stamped envelope as soon as possible.

_____ We are willing to participate in the research study on curling and understand that the only obligation on our part is to fill out a questionnaire on curling when received in November, 1978. Our names, addresses, and telephone numbers are listed below.

_____ We are not willing to participate in the research study on curling.

_____ At the present time, I am either not skipping, playing another position on another team, or not active in curling this year as a member of a competitive team.

LEAD

Name _____

Address _____

_____

_____

Postal Code _____

Telephone (home) _____

SECOND

Name _____

Address _____

_____

_____

Postal Code _____

Telephone (home) _____

THIRD

Name _____

Address _____

_____

_____

Postal Code _____

Telephone (home) _____

SKIP

Name _____

Address _____

_____

_____

Postal Code _____

Telephone (home) _____

APPENDIX 2

December 30, 1978

10681 69 Street
Edmonton, Alberta

Dear Sir;

You are a part of a unique research study on curling. The "TOP 64" teams in Alberta have been selected. The purpose of the study is threefold. First, the characteristics of individuals who participate in cash bonspiels and Consol Playdowns will be described. Second, differences between the more and less successful teams will be identified to try and establish what the "keys" to success might be. Third, what curlers think the "keys" to success might be will also be described. The results from the study will serve as the basis for a thesis I am writing at the University of Alberta (Sociology).

Two types of information are being gathered. First, the results from various competitive events held during this curling season will be examined to establish a measure of each "TOP 64" team's performance. Second, each member of the "TOP 64" teams selected is being asked to complete the enclosed questionnaire.

The results of all questionnaires will be completely confidential. Each one has been coded with a secret team identification number known only to my research assistant, Ms. Susan Jenkins. It is necessary to use this procedure so Ms. Jenkins can match your response with that of your teammates and the performance rating of your team. I will never personally see any completed questionnaires. Once Ms. Jenkins has entered the information into a computer file all questionnaires will be destroyed and there will be absolutely no way any individual will be identified directly or indirectly.

Since a relatively small number of teams are included in this study, your personal contribution is of vital importance. The questionnaire is thorough and asks for a wide range of information to be used as a basis for making comparisons between groups of more and less successful teams. I think you will find the questions interesting and thought provoking. Despite its rather lengthy appearance it will take between thirty and forty minutes to complete with careful thought. It is necessary to complete the entire questionnaire in one sitting.

When the results are available I will send you a summary of the findings. This will be towards the end of April when all competitive events, including the Consols, are finished.

Ideally, it would be best if you can complete the questionnaire before you do any more curling. If you have any questions, please call me at home (466-3793) or at work (462-5501). Call collect if it is long distance.

Be sure to use the enclosed, stamped envelope addressed to Ms. Susan Jenkins when returning the questionnaire.

Best of luck and good curling.

Yours truly,

Millard Evans

I. Your Curling History

1. In what year did you curl your very first game? _____

2. How many years have you curled at least one game per week on the average?

_____ 3 years or less
_____ 4 - 6 years
_____ 7 - 9 years
_____ 10 - 12 years
_____ 13 - 15 years
_____ More than 15 years

3. Check all those positions played for at least one season since you started curling.

_____ Lead _____ Second _____ Third _____ Skip

4. In what year did you first join a curling team that you would say was among the TOP 64 teams in Alberta (or another province if you lived elsewhere)?

_____

5. How many years have you been a member of a curling team that you would say was among the TOP 64 in Alberta (or another province if you lived elsewhere)? (Include 1978/79.)

_____ 1 year
_____ 2 years
_____ 3 years
_____ 4 - 6 years
_____ 7 - 9 years
_____ 10 - 12 years
_____ 13 - 15 years
_____ More than 15 years

6. When you first joined a TOP 64 team, what were your specific goals in curling?

_____

_____

_____

_____

_____

_____

_____

_____

7. Describe any achievements that indicate how you have partially or fully attained these goals.

_____

_____

_____

_____

_____

8. As a member of teams in the TOP 64, indicate how many years you have played each position.

LEAD _____ years
SECOND _____ years
THIRD _____ years
SKIP _____ years

9. Circle the position you are playing at the present time.

Lead Second Third Skip

10. Circle the position you want to be playing 3-4 years from now.

Lead Second Third Skip Will not be active

11. How many different TOP 64 teams have you played with for at least one season? (A different team is one having at least two changes from one season to the next.)

_____ teams

12. What is the longest time you have played with the same TOP 64 team?

_____ years

13. How many regular league games do you play per week with this team?

_____ games per week

14. How many regular league games do you play per week with other teams?

_____ games per week

15. At this point in time, what are your specific goals in curling?

_____

_____

_____

_____

16. Considering how your present team ranks among the TOP 64 teams in Alberta, how would you rate your chances of attaining the goals listed in #15 during the 1978/79 curling season?

_____ Well Above Average
_____ Above Average
_____ Average
_____ Below Average
_____ Well Below Average

17. Rate your chances of attaining the goals listed in #15 during future curling seasons with your present team.

_____ Well Above Average
_____ Above Average
_____ Average
_____ Below Average
_____ Well Below Average

_____ Team will not be together in future years

18. Rate your chances of attaining the goals listed in #15 during future curling seasons with other teams you may have an opportunity to play with at some time in the future.

_____ Well Above Average
_____ Above Average
_____ Average
_____ Below Average
_____ Well Below Average

19. What has been the closest you have come to achieving the goals listed in #15?

_____

_____

_____

_____

_____

20. Considering goals you may have in other areas of your life (such as work, marriage, family, religion, politics, etc.) how important is the achievement of your goals in curling?

_____ Of greatest relative importance
_____ Of greater relative importance than some other goals
_____ Of equal importance with other goals
_____ Of lesser relative importance than most other goals
_____ Of least relative importance

21. How many more years will you actively pursue the attainment of your goals in curling?

_____ years

22. Suppose that your team entered a 64 rink bonspiel having a total prize pool of $30,000 and a first prize of $14,000. Assuming that the event takes place during the middle of the curling season, how would you rate your team's chance of the following: (Circle your rating.)

A. Qualifying as 1 of 16 teams	WELL BELOW AVERAGE	BELOW AVERAGE	AVERAGE	ABOVE AVERAGE	WELL ABOVE AVERAGE
B. Reaching the semi-finals (4's)	WELL BELOW AVERAGE	BELOW AVERAGE	AVERAGE	ABOVE AVERAGE	WELL ABOVE AVERAGE
C. Winning first prize of $14,000	WELL BELOW AVERAGE	BELOW AVERAGE	AVERAGE	ABOVE AVERAGE	WELL ABOVE AVERAGE

23. Assuming your team enters the 1979 Consol Playdowns, how would you rate your team's chance of the following: (Circle your rating.)

A. Winning a zone	WELL BELOW AVERAGE	BELOW AVERAGE	AVERAGE	ABOVE AVERAGE	WELL ABOVE AVERAGE
B. Winning a berth in provincial playdowns	WELL BELOW AVERAGE	BELOW AVERAGE	AVERAGE	ABOVE AVERAGE	WELL ABOVE AVERAGE
C. Winning the province (Purple Heart)	WELL BELOW AVERAGE	BELOW AVERAGE	AVERAGE	ABOVE AVERAGE	WELL ABOVE AVERAGE

II. Demographic Information

1. What is your height? _____ Feet _____ Inches
2. What is your weight? _____ Pounds
3. What is your age? _____ Years
4. What is your occupation? _____
5. Are you employed at the present time?

_____ Yes, on a full-time basis
_____ Yes, on a part-time basis
_____ No, by personal choice
_____ No, and not by personal choice

IF YOU ARE EMPLOYED FULL-TIME OR PART-TIME ANSWER QUESTIONS #6 - #9, OTHERWISE GO DIRECTLY TO QUESTION #10.

6. To what extent is your employer (immediate superior) supportive or non-supportive of your curling when it requires that you be away from work?

_____ Very Supportive
_____ Supportive
_____ Neither Supportive nor Non-supportive
_____ Non-supportive
_____ Very Non-supportive
_____ I am self-employed and this question does not apply to me.

7. Is it easy or difficult for you to be absent from work to compete in cash bonspiels or Consol Playdowns?

_____Extremely Difficult
_____Very Difficult
_____ Somewhat Difficult
_____ Somewhat Easy
_____Very Easy
_____Extremely Easy

8. To what extent is your performance on the ice affected negatively by the conflict between the demands of your job and your curling?

_____ To A Great Extent
_____ To A Considerable Extent
_____ To Some Extent
_____ Not At All

9. If your employer told you to either quit curling or resign, what would you do?

_____ Resign and seek other employment
_____ Quit curling
_____ Reduce the amount of curling and try to fit it in better with work

10. Check the category below that best represents your total income for 1978 before taxes. Include income from all sources including spouse income if applicable. Exclude all cash and prizes won in curling.

_____ Less than $5,000
_____ $5,000 - $9,999
_____ $10,000 - $14,999
_____ $15,000 - $19,999
_____ $20,000 - $24,999
_____ $25,000 - $29,999
_____ $30,000 or more

11. What is your present marital status?

_____ Single (never married)
_____ Married
_____ Living Common Law
_____ Divorced
_____ Separated
_____ Other

IF YOU ARE MARRIED OR LIVING COMMON LAW, ANSWER QUESTIONS #12 - #16 OTHERWISE GO ON TO QUESTION #17.

12. How many children do you have? (Circle correct response.)

None One Two Three Four Five or more

13. To what extent is your wife supportive or non-supportive of your curling?

_____ Very Supportive
_____ Supportive
_____ Neither Supportive Nor Non-supportive
_____ Non-supportive
_____ Very Non-supportive

14. Is it easy or difficult for you to be away from home (although not necessarily out of town) to compete in cash bonspiels or Consol Playdowns?

_____ Extremely Difficult
_____ Very Difficult
_____ Somewhat Difficult
_____ Somewhat Easy
_____ Very Easy
_____ Extremely Easy

15. To what extent is your performance on the ice affected negatively by the conflict between the demands of your marriage (and family if you have children) and your curling?

_____ To A Great Extent
_____ To A Considerable Extent
_____ To Some Extent
_____ Not At All

16. If your wife told you to quit curling or separate, what would you do?

_____ Separate
_____ Quit curling
_____ Reduce the amount of curling in an effort to reduce the conflict

17. To what extent is your performance on the ice affected <u>negatively</u> by the conflict between the demands of your curling and other demands placed upon your time, money and energy (excluding job, marriage, and family).

_____ To A Great Extent
_____ To A Considerable Extent
_____ To Some Extent
_____ Not At All

18. In the 1977/78 curling season (excluding costs of lost work time), how did your curling expenses compare with cash and prizes won?

_____ Expenses were greater than cash and prizes won
_____ Expenses were equal to the value of cash and prizes won
_____ Cash and Prizes were greater in value than expenses

19. For the 1978/79 curling season, which do you expect to be true?

_____ Expenses will be greater than cash and prizes won
_____ Expenses will equal the value of cash and prizes won
_____ Cash and Prizes will be greater in value than expenses

20. Estimate your total curling expenses for 1978/79. Exclude cost of lost work time. Include expenses such as league fees, entry fees, equipment, travel, food, lodging, etc..

$_____

21. Do the financial costs associated with competing in cash bonspiels and the Consol Playdowns make it necessary for your team to limit the number of events you enter during a season?

_____ Yes, to a great extent
_____ Yes, to some extent
_____ No, not at all

22. Suppose you were scheduled to curl at 3:00 P.M. and 9:00 P.M. in a cash bonspiel or the Consol Playdowns. How many alcoholic drinks would you typically have between games?

None One Two Three Four or more

23. To what extent do you think your performance in the next game would be affected by the consumption of alcohol between games?

_____ Performance will be substantially improved over normal
_____ Performance will be slightly improved over normal
_____ Performance will not be affected
_____ Performance will be slightly poorer than normal
_____ Performance will be substantially poorer than normal

III. Ingredients of Success

1. In your view, what are the five most important variables which contribute to a team's success or failure in curling? Number the five variables listed from 1 - 5 in order of importance with 1 representing the most important variable.

_____

_____

_____

_____

_____

2. Considering that many variables may contribute to a team's success or failure in curling, how important are the five variables you listed above compared with all other variables?

The five variables listed above are:

_____ Extremely Important
_____ Very Important
_____ Somewhat Important
_____ Somewhat Unimportant
_____ Very Unimportant
_____ Extremely Unimportant

Preparation

1. In a typical two week period prior to an important competition, how many times do you practice curling (alone or with someone)?

_____ I would not practice
_____ 1 - 2 times
_____ 3 - 4 times
_____ 5 - 7 times
_____ 8 times or more

2. Do you play other sports or engage in physical activities with the specific intent of improving or maintaining a level of conditioning needed for curling?

_____ Yes
_____ No

If YES above, describe the activities and how much time you spend per week on each activity.

_____

_____

_____

3. How important is it for you to prepare mentally for a competition such as a cash bonspiel or Consol Playdowns?

_____ Of great importance
_____ Of some importance
_____ Of minor importance
_____ Of no importance

If you said mental preparation was at least of minor importance, describe how you get yourself ready for an important competition.

_____

_____

_____

_____

_____

4. Compared to your opponents, how would you rate your level of physical fitness?

_____ Far Superior
_____ Superior
_____ Comparable (no difference)
_____ Inferior
_____ Far Inferior

5. Do you have any chronic injuries which affect your curling ability?

_____ Yes
_____ No

If Yes, check all categories below that describe your chronic injury.

_____ Knee problems
_____ Back problems
_____ Tendonitis
_____ Arthritis
_____ Stiffness of the joints
_____ Other (please specify) _____

V. Interpersonal Relations

1. How well do the members of your team get along with each other under the following circumstances:

A. On the ice and you are winning	B. On the ice and you are losing	C. Off the ice and you are winning	D. Off the ice and you are losing
___ Excellent	___ Excellent	___ Excellent	___ Excellent
___ Very Good	___ Very Good	___ Very Good	___ Very Good
___ Good	___ Good	___ Good	___ Good
___ Fair	___ Fair	___ Fair	___ Fair
___ Poor	___ Poor	___ Poor	___ Poor

2. During this curling season, how many times has your team met socially away from the curling club? (Circle your response.)

Once Twice Three times Four times Five or more times

3. During this curling season, how many times will your team meet socially away from the curling club between now and the end of the season? (Circle your response.)

Once Twice Three times Four times Five or more times

4. How many of your teammates would you consider as personal friends?

_____ None
_____ One
_____ Two
_____ Three

VI. Reasons Why You Curl Competitively

1. From the list below, select the three reasons which best describe your reasons for being a competitive curler. Place a #1 beside the most important reason, a #2 beside the second most important, and a #3 beside the third most important. You may add reasons which do not appear in the list.

_____ To earn money
_____ To gain status, prestige, recognition
_____ To be with friends and associates
_____ To release surplus energy
_____ To enjoy a stimulating recreational activity
_____ To pursue excellence in athletic achievement
_____ To improve physical fitness
_____ To have an outlet for aggression
_____ To avoid facing a general lack of ability in other areas

VII. Individual Preferences

People differ in the ways they think about those with whom they curl. This may be important in curling with others. Please give your immediate, first reaction to the items on pages 12 and 13.

Below are pairs of words which are opposite in meaning, such as "Very Neat" and "Not Neat". You are asked to describe someone with whom you have curled by placing an "X" in one of the eight spaces on the line between the two words.

Each space represents how well the adjective fits the person you are describing, as if it were written:

Very Neat	:	:	:	:	:	:	:	:	Not Neat
	8 Very neat	7 Quite neat	6 Some-what neat	5 Slightly neat	4 Slightly untidy	3 Some-what untidy	2 Quite untidy	1 Very untidy	

FOR EXAMPLE: If you were to describe the person with whom you are able to curl least well, and you ordinarily think of him as being quite neat, you would put an "X" in the second space from the words Very Neat, as shown below:

Very Neat	:	X	:	:	:	:	:	:	Not Neat
	8 Very neat	7 Quite neat	6 Some-what neat	5 Slightly neat	4 Slightly untidy	3 Some-what untidy	2 Quite untidy	1 Very untidy	

FOR EXAMPLE: If you ordinarily think of the person with whom you are able to curl least well as being only slightly neat, you would put your "X" as shown below:

Very Neat	:	:	:	X	:	:	:	:	Not Neat
	8 Very neat	7 Quite neat	6 Some-what neat	5 Slightly neat	4 Slightly untidy	3 Some-what untidy	2 Quite untidy	1 Very untidy	

FOR EXAMPLE: If you would think of him as being very untidy, you would use the space nearest the words Not Neat as shown below.

Very Neat	:	:	:	:	:	:	:	X	Not Neat
	8 Very neat	7 Quite neat	6 Some-what neat	5 Slightly neat	4 Slightly untidy	3 Some-what untidy	2 Quite untidy	1 Very untidy	

PLEASE GO ON TO PAGES 12 and 13.

Look at the words at both ends of the line before you put in your "X". Please remember that there are no right or wrong answers. Work rapidly; your first answer is likely to be the best. Please do not omit any items, and mark each item only once.

THINK OF THE PERSON WITH WHOM YOU CURL LEAST WELL. HE MAY BE SOMEONE YOU CURL WITH NOW, OR HE MAY BE SOMEONE YOU CURLED WITH IN THE PAST.

HE DOES NOT HAVE TO BE THE PERSON YOU LIKE LEAST WELL, BUT SHOULD BE THE PERSON WITH WHOM YOU HAD THE MOST DIFFICULTY IN GETTING A JOB DONE. DESCRIBE THIS PERSON AS HE APPEARS TO YOU.

Pleasant	:__8__:__7__:__6__:__5__:__4__:__3__:__2__:__1__:	Unpleasant
Friendly	:__8__:__7__:__6__:__5__:__4__:__3__:__2__:__1__:	Unfriendly
Rejecting	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:__8__:	Accepting
Helpful	:__8__:__7__:__6__:__5__:__4__:__3__:__2__:__1__:	Frustrating
Unenthusiastic	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:__8__:	Enthusiastic
Tense	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:__8__:	Relaxed
Distant	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:__8__:	Close
Cold	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:__8__:	Warm
Cooperative	:__8__:__7__:__6__:__5__:__4__:__3__:__2__:__1__:	Uncooperative
Supportive	:__8__:__7__:__6__:__5__:__4__:__3__:__2__:__1__:	Hostile
Boring	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:__8__:	Interesting
Quarrelsome	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:__8__:	Harmonious
Self-assured	:__8__:__7__:__6__:__5__:__4__:__3__:__2__:__1__:	Hesitant
Efficient	:__8__:__7__:__6__:__5__:__4__:__3__:__2__:__1__:	Inefficient
Gloomy	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:__8__:	Cheerful
Open	:__8__:__7__:__6__:__5__:__4__:__3__:__2__:__1__:	Guarded

NOW THINK OF THE PERSON WITH WHOM YOU CURL BEST. HE MAY BE SOMEONE THAT YOU CURL WITH NOW, OR HE MAY BE SOMEONE YOU CURLED WITH IN THE PAST.

HE DOES NOT HAVE TO BE THE PERSON YOU LIKE BEST, BUT SHOULD BE THE PERSON WITH WHOM YOU HAD THE LEAST DIFFICULTY IN GETTING A JOB DONE. DESCRIBE THIS PERSON AS HE APPEARS TO YOU.

Pleasant	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Unpleasant
Friendly	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Unfriendly
Rejecting	: 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 :	Accepting
Helpful	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Frustrating
Unenthusiastic	: 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 :	Enthusiastic
Tense	: 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 :	Relaxed
Distant	: 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 :	Close
Cold	: 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 :	Warm
Cooperative	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Uncooperative
Supportive	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Hostile
Boring	: 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 :	Interesting
Quarrelsome	: 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 :	Harmonious
Self-assured	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Hesitant
Efficient	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Inefficient
Gloomy	: 1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 :	Cheerful
Open	: 8 : 7 : 6 : 5 : 4 : 3 : 2 : 1 :	Guarded

VIII. Assessment Of Self And Teammates

This question asks you to rate yourself and each teammate on a variety of characteristics presented below. Ratings will be made by using a five point scale where:

1 = Very Poor
2 = Below Average
3 = Average
4 = Above Average
5 = Very Superior

As a standard of comparison, let a rating of "3" or Average represent the quality of team which typically qualifies in one of every four bonspiels entered (or the quality of team which wins a zone in Consol Playdowns about once every five years).

CIRCLE THE NUMBER ON THE FIVE POINT SCALE THAT BEST DESCRIBES THE LEAD, SECOND, THIRD, AND SKIP OF YOUR TEAM. BE SURE TO KEEP THE STANDARD OF COMPARISON IN MIND WHEN MAKING YOUR RATINGS.

CHARACTERISTICS	LEAD	SECOND	THIRD	SKIP
1. Ability to draw	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
2. Ability to hit	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
3. Judgement of sweeping	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
4. Knowledge of strategy	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
5. Will to win	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
6. Ability to block out distractions	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
7. Ability to adjust to changing ice conditions	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
8. Self-confidence	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
9. Confidence shown in teammates	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
10. Satisfaction with present position	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
11. Sportsmanship	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
12. Ability to perform under pressure	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

SKIP'S QUESTIONNAIRE ONLY

IX. Curling Events

1. List the events which your team has curled in thus far during the 1978/79 curling season.

_____

_____

_____

_____

_____

_____

_____

_____

2. Indicate how you placed in each of these events. Write the letter which corresponds to the appropriate category (shown below) beside each event you listed above.

A. Lost out in straight games.

B. Won at least one game but did not reach a qualifying game.

C. Reached at least one qualifying game but did not qualify.

D. Qualified but lost first game after qualifying.

E. Reached semi-final and lost going into final.

F. Reached final but lost that game.

G. Won this particular event.

X. Miscellaneous

1. Do you feel that you have reached your peak in curling as a skip?

_____ Yes, I have past my peak years
_____ Yes, I am in my peak years now
_____ No, I have yet to reach my peak

2. In what position do you feel your team ranks among the "TOP 64" teams in Alberta?

_____

3. Have you ever participated in Consol Playdowns in a province other than Alberta?

_____Yes _____No